Meeting the OECD Poverty Targets--An Approach Paper for USAID

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Executive Summary

MEETING THE OECD POVERTY TARGETS: AN APPROACH PAPER FOR USAID

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The OECD Poverty Targets

A specific set of global poverty reduction targets have been legitimized as the post-Cold War objective of foreign aid in a wide ranging set of international fora and institutions. While poverty is recognized as multi-faceted, income is the centerpiece of the targets and the most quoted element. There are also targets for health, education, and gender.

The income target is to reduce poverty by half by 2015. The measure of poverty is less than one dollar per day of income, adjusted for purchasing power and price level. The World Bank's Purchasing Power Parity index is used to equate the $1 across countries as well as to make adjustments for inflation since the base year of 1993. The $1 per day of income target is based on the income required to provide adequate calories for a healthy life and the other goods and services that the poor consider of equal importance as evidenced by their expenditure patterns. This measure is therefore analogous to a food security target. Indeed, when the World Food Summit expressed a target for food security, it was defined in the same income terms.

The health target, also for 2015, is to reduce the mortality rates for infants and children under five by two-thirds, for mothers by three quarters, and universal access to reproductive health services. The education target is to provide universal primary education by 2015; and the gender target is to eliminate gender disparities in primary and secondary education, also by 2015.

The health, education, and gender targets are easier to reach than the income target. That is because they are more simply defined in terms of actions to reach them and the total cost is less than that for achieving the income targets. It is notable that in the past few decades, while income poverty has been increasing in Africa, substantial improvement was made in the indicators of health and education.

The World Development Report 2000/2001: Attacking Poverty and the OEDC poverty guidelines place major emphasis on several ancillary aspects of poverty, including empowerment and conflict resolution. These are important, but again are closely related to income.

Therefore, this paper concentrates on how to achieve the income target. Substantial parts of the world, for a substantial period of time, reduced poverty even faster than called for in the targets. Thus the goal would seem to be feasible. However, progress in poverty reduction has slowed in the past decade, and Africa has in fact seen a long period of increasing poverty.

Meeting the Poverty Targets through Growth

Increased economic growth is the means to reduce poverty. However, the structure of that growth matters very much. Agriculture and the rural sector are far more important in poverty reduction than manufacturing and urban growth. Agricultural growth requires many of the same polices as manufacturing growth. In addition, because it is a small-scale sector it requires a wider range of more complex public goods than does manufacturing. However, agriculture competes very little with manufacturing for resources. Hence giving attention to agricultural growth not only rapidly reduces poverty but it adds to the overall growth rate as well.

On average, for each percent increase in average consumption, the percent under the poverty line declines by about 2 percent. However there is considerable variation from country to country in that relation. Using the $1 a day poverty measure, growth only explains 37 percent of the change in poverty; leaving 73 percent to be explained by other factors. Agricultural productivity growth is the dominant factor explaining that residual.

Data for India showed that in the context of weather induced fluctuations in agricultural production rural poverty fluctuated over a range of 35 percentage points. That suggested a powerful force at work. By the late 1990's, many states in India and many countries had sustained high growth rates for a considerable period of time and with quite different structures of growth. Statistical analyses of these data show that more than 80 percent of poverty reduction is due to agricultural growth. More generally, rural growth reduces poverty greatly, urban growth reduces it very little; agricultural growth reduces poverty in both urban and rural areas, manufacturing growth reduces poverty rather little in urban areas and not at all in rural areas.

However, it seems strange that agriculture would have such a large impact on poverty reduction. The benefits of productivity growth in agriculture are distributed roughly according to size of land holding. Initially, the poor are not the primary beneficiaries of agricultural growth. The answer lies with the indirect impact of agricultural growth.

Poverty is substantially rural and concentrated between the rural non-farm population and the farm population with holdings so small that they depend substantially on non-farm income. Those people produce goods and services of a quality and with transaction costs inappropriate for international trade - they produce non-tradable for the local market. Agricultural incomes are the source of demand for these goods and services. They can expand, creating more employment and reducing poverty, only if agricultural incomes rise. The statistical analyses corroborate this relation by showing a few years lag between increased agricultural production and the full impact on poverty reduction. That is consistent with the impact being indirect. The data also show that where land is largely in the hands of those with very large holdings, often absentee owners, poverty reduction does not occur. That is because such rich landowners spend their incomes on imported goods or capital intensive local goods, not for the rural non-tradable.

Thus meeting the poverty targets requires accelerated growth. That growth must include accelerated growth in the agricultural sector which in turn requires not only the macro policy adjustments essential for all growth, but special attention to the public goods required by small holder agriculture.

Other Poverty Relationships

Food security is closely related to income poverty. Reducing poverty through accelerated agricultural growth will increase food security through increased incomes of the poor and through an increased supply of food. However, providing food security for all will require attention to ensuring supplies for those who do not initially benefit from the rising employment associated with accelerated agricultural growth. Food security also requires treatment of the problem of large fluctuations in food supplies due to weather changes.

Accelerated agricultural growth offers opportunity for women to increase their incomes. However, it is important to ensure that women have full access to the institutions essential to rapid agricultural growth - those for credit supply, marketing, and input supply. Often women have poor access to those institutions.

Agricultural growth is favorable to the environment. It allows land to find its optimal use through trade rather than all being used for subsistence annual crops regardless of suitability. Increased returns to control of pests and to high levels of soil fertility have the potential to create environmental problems that require attention.

The poverty reduction targets are far too large to be met with direct assistance to the poor or even through scattered projects. However, with high agricultural growth rates reducing poverty rapidly, it becomes manageable to deal with residual problems of poverty with direct programs. The growth approach to poverty reduction is complementary to direct programs to assist the poor.

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The international community has reached consensus that specific, global, poverty reduction targets are the central post-Cold War objective of foreign aid. Poverty is recognized as multi faceted. In addition to income, the targets have health, education, and gender components. However, income is the centerpiece with a strong complementary relation to the other facets of poverty. The income target is to reduce poverty by half by 2015. The measure of poverty is less than one dollar per day of income, adjusted for purchasing power and price level.

Because of the widespread acceptance of the poverty targets and the current legitimization processes used as a means of reaching those targets, it is necessary for each aid donor to examine both the targets and the means of reaching them, as a step towards defining and coordinating individual donor strategies. Thus, this paper explores in detail the targets, definitions, and implementational measures that comprise the current consensus. From that base it analyzes the key relationships in poverty reduction and draws conclusions for action. This paper emphasizes the structure of growth required to meet the targets. While the targets do not consider fluctuations in poverty, and particularly neglect food security issues, specific attention is given to those issues in this paper.

There are other objectives besides poverty reduction for foreign aid. But, many of those objectives are related to poverty. Economic growth, democracy and governance, conflict resolution, health and education, as well as the commitment to privatization, free markets, and increased importance to civil society all bear a powerful complementary relationship to poverty reduction.

Rapid reduction in poverty in the 1980's, particularly in East and Southeast Asia, provide evidence that the targets may indeed be achievable. Since the targets were set, the slowing of poverty reduction in the 1990's in Asia and the continued increase of income poverty in Africa suggest that the task is a daunting one.

Meeting the poverty reduction targets will require a focus on growth that particularly impacts on the poor. Since the poor are concentrated in rural areas and much of urban poverty is rural derived, the emphasis must be on rural areas. That in turn requires a return to major support for the institutional innovation, technology development, infrastructure and human capital investment that are essential to growth of agriculture and employment-intensive rural small-scale enterprise. While small-scale enterprise is dominant in job formation for the poor, the effective demand for its output comes largely from rising farm incomes.

While the macro adjustments and privatization of the past decade are important to the poor and to pro-poor growth, the need is also for balanced growth emphasizing both tradable and non-tradable commodities, agriculture, and small-scale industry, as well as export oriented manufacturing.

There will also have to be special efforts to ensure the participation of the poor, particularly poor women, in pro-poor growth. These efforts will include to increasing their access to improved technology, modern institutions, and capital, and to ensuring their participation in expanded education and health benefits. Consideration must be given to the risks the poor face ranging from victimization by existing power structures to their vulnerability to random fluctuations in weather and prices. While poverty reduction has major favorable effects on the environment, several risks of pro-poor growth to the environment need to be explicitly faced.

With so much to be done, success requires setting a limited number of priorities at any one time and pursuing them until achieved. The very large global target for poverty reduction, its concentration in South Asia and Africa (where it is increasing), bring a geographic focus to poverty reduction. Difficult priority setting will also be required with respect to micro-geographic areas. With careful thought, strategic planning, donor coordination, and substantial resources, success is possible.

I. THE POVERTY TARGETS

The poverty targets are diverse, but focus on income. They are now the product of substantial consensus within the foreign assistance donor community, and are attainable only in the context of a major coordinated effort.

What are the Targets?

The targets are multi-faceted in keeping with contemporary sophistication in understanding the nature of poverty. They encompass income, health and education, and gender. The several guidelines being produced by various agencies reflect many elements of the means for reaching the targets that are in effect sub targets. The guidelines also emphasize approaches that are important to the poor, but are not directly part of the current targets.

Income Poverty

The basic poverty target is to reduce the proportion of the world population in poverty by one half by 2015. Poverty is expressed as less than $1.00 per day of income per capita. For the purpose of global aggregation and comparison, the World Bank uses international poverty lines set at $1 and $2 per day in 1993 Purchasing Power Parity (PPP) terms (World Bank 2001, World Bank 1999a). PPP measures the relative purchasing power of currencies across countries. The target is a head count measure, meaning that the numbers of people with incomes below the poverty line are counted.

The World Bank has calculated that 30 percent of the world's population had less than $1.00 per day of income in 1993 for a total of 1.3 billion people. They further calculate that a reduction of the proportion to 15 percent in 2015 would reduce the number of poor to 0.9 billion in that year (World Bank 1999b). It follows, that as compared to the proportion of the poor staying the same at 30 percent of a much larger population, 0.9 billion people have to be lifted above the poverty line. This number is important in defining a massive aggregate reduction in poverty. Simply an aggregation of a large number of projects targeted at the poor will not do the job.

The poverty line targeted, and defined by the World Bank, is based on the calories needed to provide a healthy active life. This class of poverty lines dates back to Dandekar and Rath's calculation of a minimum calorie intake to provide a healthy life (Dandekar and Rath 1971). They calculated at what income level persons reached that level of calorie intake given the actual apportionment of expenditure by people at that income level. That in effect assumes that the poor allocate income sensibly and that therefore the items other than food on which they spend are as essential to their well-being as food. At that level of income, food comprises roughly 80 percent of expenditure.

The argument is that food intake is essential to minimal physical well-being and that the other items purchased by the poor are equally important. The one-dollar a day is a level of income that on average provides that level of intake. In a sense, the poverty measure is a food security measure -- sufficient income to provide on average a minimum adequate level of food intake. Of course, the fluctuations around that average are important and will be examined in the section on Food Security.

Intuitively, the target is most easily met by lifting a large number of people just below the poverty line to just above the line. But, that might not fit the spirit of the targets. For that reason, measures have been developed of the intensity of poverty below the line. If a high proportion of the poor are concentrated substantially below the poverty line, that shows a more serious poverty problem than if they are concentrated just below the line.

However, in practice, economic growth that decreases the proportion below the poverty line generally has an equally large or larger impact on those far below the poverty line. That is, under actual national conditions of poverty, growth reduces poverty just as much by the more complex measures that weigh how much below the poverty line a population may be as by the simpler head count methods (Deininger and Squire 1996 and Ravallion and Datt 1996). Thus, the head count is also a reasonable approximation of how much the more intense poverty is relieved.

In high-income countries, poverty is often viewed in terms of the distribution of income. However, there is a philosophical argument (Sen 1976) that in poor countries it is absolute poverty that matters, not the distribution of income. From an intuitive point of view, foreign aid donors may agree that making this a world without hunger, the key component of the absolute poverty targets, is the appropriate way to expend foreign assistance dollars. That leads to the absolute poverty targets set by the donor community.

However, the distribution of income and especially changes in that distribution is an important variable in determining the extent to which people are lifted above an absolute poverty line. If the distribution is worsened by processes of growth, then the effect of growth on poverty reduction will be reduced, and conversely. However, in practice, the pro-poor growth stated below slightly improves the distribution of income thus magnifying the reduction in absolute poverty.

The distribution of income enters into absolute poverty reduction in another manner. As we will show later, pro-poor growth does not reduce poverty much when the initial distribution of income and assets, most notably land, is highly skewed.

While, under initial conditions of relatively equal distribution of income, pro-poor growth does improve the distribution of income, it does so only modestly. In general, growth does not markedly change income distribution (Deininger and Squire 1996). Even so, rapid growth with an appropriate structure does lift very large numbers of people above the absolute poverty line. Thus, solving the problem of absolute poverty is much more achievable than changing the distribution of income.

Health, Education, and Gender Poverty

In addition to income, there are targets specific to health, education, and gender (World Bank 1999c). These are discrete, separable targets. The health targets for 2015 are to reduce the mortality rates for infants and children under five by two-thirds, for mothers by three-quarters, and to provide access to reproductive health services for all individuals (World Bank 1999c). The education target for 2015 is to provide universal primary education. The 2015 gender target is to eliminate gender disparities in primary and secondary education - seen as progress towards gender equality and empowerment of women. The targets for women only state education equality, with no income targets. The participation of women in pro-poor growth will be discussed below.

The education, health, and gender targets are easier to meet than the income target because they can be defined in terms of specific programs that can predictably reach a given number of people, with low costs compared to either national budgets or foreign aid budgets. It is these characteristics that in part explain increasing concentration of donor aid on these specific aspects of poverty, which in turn helps explain more rapid improvement of these measures than of income poverty. Indeed, it is striking that while income poverty has been increasing fairly rapidly in Africa, poverty as measured by infant mortality, life expectancy, and primary school attendance has been decreasing.

According to the UNDP-Africa report, income poverty in sub-Saharan Africa rose 40% between 1987 and 1993, while non-income measures of poverty made important progress (UNDP 1998a). Adult illiteracy dropped from more than 60% in 1970 to about 40% in 1995, infant mortality fell from 166 to 97 per 1,000 live births between 1960 and 1994, and the proportion of the population without access to safe water dropped from about 80% in 1975 to less than 60% in 1995. National governments and donors have both given special earmarking of funds and expenditure on these items, thereby improving them faster than population growth rates.

However, there are two caveats about the non-income targets. First, it will be increasingly difficult to reach them as population increases the numbers to be reached. Second, for education, lack of growth in employment opportunities for the poor reduces their incentives to participate in schooling and thus makes the targets appear less reachable or more illusory. Employment, income, and demand for education all interact.

The same is true to some extent of health. Reduction in infant mortality shows eventually in greater demand for jobs and if those jobs are not available, then greater poverty will occur in the next generation, with the increasingly difficult task of holding down infant mortality. The simple question is where will the jobs come from for all the children whose deaths have been postponed by child survival programs?

The targets do not specify anything for AIDS. That is surprising given the pandemic on the way in Africa. Projection of present trends will show in the form of increased poverty, increased child mortality, lessened school attendance, and dramatically increased orphanage. Consideration will therefore be given to this dimension in this paper.

Whose Targets?

The targets have a substantial and diverse history. At each stage they have been confirmed by an international body, giving them increasing legitimacy.

The 1995 UN Social Summit in Copenhagen reaffirmed its commitment to fighting all aspects of poverty by committing to a set of targets for poverty reduction. It agreed that each member country would devise a program to halve the incidence of income poverty between 1995 and 2015(IFAD 2000).

In partnership with developing countries, the Organization for Economic Co-operation and Development (OECD), the United Nations, and the World Bank agreed on a set of goals, known as the International Development Goals, to guide official development assistance into the next century (OECD/DAC 1996) (World Bank 1999c). Those are the goals stated in the previous section. In 1996, OECD agreed to set their country-specific aid into the context of these national programs (IFAD 2000).

In November 1996, the World Food Summit, in an analogous statement, declared that hunger should be reduced by half by 2015. Hunger was essentially defined in terms of the income necessary to provide an adequate diet, and was thus roughly synonymous with the income poverty targets that grew from other meetings. The World Food Summit proceedings are especially relevant because of the importance of food in the expenditure patterns and well-being of the poor and the detail with respect to ensuring adequate food that grew from the Summit.

The consensus building process grew rapidly. In 1996, the Development Assistance Committee published Strategy 21 calling for a global effort to reach the International Development Goals. The 1996 World Bank/ International Monetary Fund (IMF) Annual Meetings approved the Highly Indebted Countries (HIPC) initiative for comprehensive debt relief. In 1999, at the Cologne Summit the G-8 declared support for deeper debt relief within a framework of poverty reduction. At the 1999 World Bank/IMF Annual Meetings it was agreed to link debt relief to the establishment of a poverty reduction strategy for all countries receiving World Bank/IMF concessional assistance (World Bank 2000a). Thus, between 1995 and 1999, the donor community became fully committed to a common set of poverty targets to be reached by 2015.

What are the Plans for Meeting the Targets?

The DAC of the OECD, in response to the widespread acceptance of targets, has been developing a set of guidelines for meeting the targets. That process has included a series of meetings, commissioning of components of the guidelines, vetting of those guidelines in regional meetings in developing countries, and a series of technical meetings to discuss and build consensus for the guidelines.

The World Bank devoted the annual World Development Report (WDR) for 2001 to poverty reduction. That report was written in a broadly participatory process and included wide ranging reviews and modifications of the report.

In both the OECD/DAC process and the World Bank's WDR, the weighing of participation was towards the myriad organized groups emphasizing direct actions targeted directly to specific problems of the poor. Growth was in general stated to be important, but little attention was given to pro-poor structures of growth and they receive little weight in the reports. Food security and other elements of the World Food Summit also received little attention.

Of direct operational significance, the World Bank has made participatory development the official centerpiece of country development strategies, as documented in the Poverty Reduction Strategy Papers (PRSP). Those new documents are stated as being in place of the previous Country Development Strategy. As noted above, the World Bank and the IMF have explicitly made poverty reduction the centerpiece of debt reduction. The PRSP will be the instrument for action. Other fora, including those of OECD have specifically noted the importance of PRSP. In the HPIC and PRSP efforts to date, the structure of growth and particularly the key role of agriculture and rural small-scale enterprises in that structure have been prominent.

It is notable that the World Bank's Country Development Strategy has been based on national statistics that are generally available, and that targets have been expressed in terms of those regularly collected data. The poverty targets will be based on much more tenuous data, with weaker links between specific actions and change in those statistics. A later section discusses these needs.

UNDP notes that of the 140 developing countries, only 43 have targets for eradicating extreme poverty or substantially reducing overall poverty or both. Only in Asia and the Pacific have at least half the countries set targets. In sub-Saharan Africa, 42% of the countries have targets (UNDP 2000a). Thus, there is still a substantial gap between donor intentions for poverty reduction and the actual plans for achieving that reduction. And, in the meantime, a quarter of an already brief time span for reaching the targets has passed.

Are the Targets Achievable?

The poverty reduction targets are immense both in absolute numbers and in percentage. And, little progress has been made since they were set. Thus, the time span is now less than 15 years rather than the twenty when the targets were first stated. Nevertheless, there is good news from Asia.

Long before poverty reduction was such an explicit objective of donors, Asian countries were making even more rapid progress in poverty reduction than that stated in the present targets. It is important to review that evidence in some detail. That is because the speed of poverty reduction achieved is surprising, given the common pessimism about development and foreign aid. That in turn provides hope that the current targets can be met. And, most important, critical lessons about how to reduce poverty are imbedded in the good experience of many countries.

First to develop in the Post World War II period was Taiwan. By 1972, poverty had been eliminated and income distribution had become more equal. In 1972, compared to the early post-war years, the ratio of total income of the top 20 percent to that of the bottom 20 percent had been cut in half (Thorbecke and Wan 1999). Taiwan accomplished this with both rapid agricultural and industrial growth based almost entirely on massive numbers of small and medium scale firms located largely in rural areas (Thorbecke and Wan 1999). Foreign aid, almost entirely from the United States, gave heavy weight to rural development and made massive investment in rural infrastructure (Thorbecke and Wan 1999).

The World Bank reports that for East Asia as a whole, in the twenty years from the mid 1970's to the mid 1990's, the proportion of the population falling below the $1.00 poverty line fell from 60 percent to 20 percent – reducing poverty far more than in half (World Bank 1999g). In fact, the bulk of that progress was achieved by the mid-1980's providing a rate of poverty decline much greater than that called for in the current global targets.

In China, according to the State Statistical Bureau, the number of absolute poor in rural areas fell from 250 million in 1978 to 125 million in 1985 (UNDP 1998b). Given that population grew in this period, that more than meets the current global targets, and in only seven years. The period of rapid decline in poverty in China was one of rapid economic growth, fueled by the incentives introduced by rural and economic reforms, particularly the Household Responsibility System (HRS). The latter was the direct cause of sharply accelerated growth in agriculture. By the end of 1996, the number of absolute rural poor had come down to 58 million, most of whom resided in the remote mountainous resource poor and ethnic minority areas of the Northwest and Southwest of China (UNDP 1998b).

In Indonesia, poverty dropped from the 70% range in the early 1970s to below 10% in the early 1990s; even after the 1997 East Asian crisis, Indonesia's poverty percent in 1999 was 15.2%, using $1 a day standard (World Bank 1999d and World Bank 2001).

Because agricultural growth is so important in the low income, high poverty countries and agricultural growth is importantly affected by weather, data for a short period of time must be treated with caution.

For example, in India, for the period prior to the "Green Revolution" of accelerated agricultural growth, poverty percents fluctuated within a 35 percentage point rage (Mellor and Desai 1985). Those fluctuations were entirely due to fluctuations in agricultural production caused by varying weather conditions (Ahluwalia 1978, Mellor and Desai 1985).

However, from 1973-74 to the mid-1980s, poverty incidence declined fairly steadily from its earlier range - from 54% in 1973-74 to 38% in 1986-87. That is a decline of 30 percent in 13 years - consistent with a 50 percent decline in 20 years. It brought poverty in India well below the lowest levels of the past. That is a decline of about 2% per annum. Poverty reduction slowed in the late 1980s, probably due to poor weather conditions and the downturn in agricultural production, but the public distribution system and anti-poverty programs kept poverty from rising as it had in such circumstances in the past. By 1993-94 the incidence of poverty had fallen to 35%. This was well below the 53% of the early 1970s, but only slightly below the 38% achieved in 1987-88 (World Bank 2000b). The rate of poverty decline slackened since the late 1980s.

The Indian record tells us that even a quite poor country can get on track to meet the poverty targets in a 20-year time span. It also suggests that such a country can get off-track rather easily. Thus, it is important to understand what are the characteristics of growth that rapidly reduce poverty.

Bangladesh is a exceedingly poor country, but one with clear targets and plans for reducing poverty. The poor falling under the national poverty line declined from 43 percent of the population in 1991-92 to 36 percent in 1995-96 (World Bank 2001). Although this is too short a period to carry much statistical weight, it at least opens the possibility of a 16 percent decline in poverty proportion in four years, which extrapolates to far more than a 50 percent decline in 20 years.

The preceding examples are the good news about the possibility of meeting the poverty reduction targets. The bad news comes in two installments.

First, the decline in poverty in Asia has greatly slowed, if not halted. That shows in the preceding data. Cornea (1999) also comments on this decline. The decline began prior to the major drop in growth rates in the latter l990's and seems to be more correlated with a slowing in the agricultural growth rate than in the overall growth rate - confirming that the structure of growth does matter and that reliance cannot be placed on generic growth for reducing poverty by the drastic amounts needed to meet the OECD targets.

The World Bank reports that for India, in the 1990's, the rate of poverty reduction "slowed dramatically" - even though economic growth rates remained positive and significant (World Bank 1999e). The World Bank notes that many states had particularly poor performance in agriculture and that was correlated with the poor performance on poverty.

Second, and much more disheartening, income poverty increased steadily in Africa in the 1970s and 1980s. It seems to have leveled off, at the highest levels in the world, in the 1990s (Chen and Ravallion 2000). According to the World Bank PovertyNet, the declining commodity prices (impact of the financial crisis), slower world trade growth, increased competition from countries with depreciated exchange rates and adverse weather conditions have slowed growth in the sub-Saharan African countries and thus caused a slowdown in reducing poverty. Lack of security with continued internal conflict and civil war and absence of safety nets, like workfare programs have placed the poor in a worse situation. Moreover, the growing human development gap between Africa and the rest of the world, which has been further threatened by the HIV/AIDS epidemic has resulted in a poor performance of poverty reduction in sub-Saharan Africa (World Bank 1999e).

It is notable that reports on Asia and particularly India, where agriculture growth has been rapid, mention declining agricultural growth rates as a major cause of slowing poverty reduction. In contrast, the reports on Africa, where agriculture has in general done quite poorly except for the first decade of independence, make little mention of agriculture as a cause of the poor record in poverty reduction.

Thus, in Africa, unlike Asia, there is not a recent record of drastic poverty decline. Perhaps lessons can be learned from Asia, but the whole process of poverty reduction in Africa has to be performed with only a few examples of success and in the context of the current AIDS pandemic.

Thus, the poverty reduction targets may be achievable, but to do so Asia and particularly South Asia must be put back on track and the process of poverty reduction must be initiated in Africa. That is a daunting task.

Geographic Distribution of the Poor

The poor are concentrated in South Asia and Africa, in rural areas, in micro geographic areas of poor agricultural resources, and have a distinct gender component. Meeting the targets requires tuning of poverty to these facts.

Distribution by Continent

In 1998, ninety percent of the poor were located in South Asia, Africa and China (Table 1). There is a difference among these three major components of poverty.

China has experienced drastic decline in poverty numbers. China reduced the number in poverty from 360 million in 1990 to 210 million in 1998, a 42% reduction (World Bank 2001). That is substantially due to the major success in agricultural growth in the production areas responsive to modern technology. Now poverty is largely concentrated in areas of poor agricultural potential. That is typical of countries that have moved to middle income status with relatively even distribution of income and land. Because of its concentration in areas of poor agricultural potential, further decline in poverty in China will be more difficult to achieve than in the past.

Of the three dominant geographic regions of poverty, Africa is the least promising for meeting the targets and yet it represents 46% of all the poor and its proportion is rising rapidly. In Africa, unlike Asia, poverty has been increasing for decades. The institutional structures for growth in rural incomes are

Table 1. Poverty by region, using the $1.08 a day in 1993 PPP terms poverty line.

Region	Number of Poor (millions) 1987	1990	1993	1996	1998[a]	Share of population living on less than $1 a day (percent) 1987	1990	1993	1996	1998[a]
East Asia and the Pacific (EAP)	417.5	452.4	431.9	265.1	278.3	26.6	27.6	25.2	14.9	15.3
EAP excluding China	114.1	92.0	83.5	55.1	65.1	23.9	18.5	15.9	10.0	11.3
East Europe & Central Asia	1.1	7.1	18.3	23.8	24.0	0.2	1.6	4.0	5.1	5.1
Latin America	63.7	73.8	70.8	76.0	78.2	15.3	16.8	15.3	15.6	15.6
Middle East & North Africa	9.3	5.7	5.0	5.0	5.5	4.3	2.4	1.9	1.8	1.9
South Asia	474.4	495.1	505.1	531.7	522.0	44.9	44.0	42.4	42.3	40.0
sub-Saharan Africa	217.2	242.3	273.3	289.0	290.9	46.6	47.7	49.7	48.5	46.3
Total	1183.2	1276.4	1304.3	1190.6	1198.9	28.3	29.0	28.1	24.5	24.0
Total (excluding China)	879.8	915.9	955.9	980.5	985.7	28.5	28.1	27.7	27.0	26.2

Source: World Bank (2001). World Development Report 2000/2001: Attacking Poverty. Washington, DC: World Bank.

Notes: “The poverty line is $1.08 a day at 1993 PPP. Poverty estimates are based on income or consumption data for the countries in each region for which at least one survey was available during the period 1985-98. Where survey years do not coincide with the dates in the above table, the survey estimates were adjusted using the closest available survey for each country and applying the consumption growth rate from national accounts. Using the assumption that the sample of countries covered by surveys is representative of the region as a whole, the number of poor was then estimated by region. This assumption is obviously less robust in the regions with the lowest survey coverage. Further details on data and methodology can be found in Chen and Ravallion (2000).”
a. Preliminary –*World Bank (2001)*

hardly in place and there is little commitment to putting them in place. On top of all that the AIDS pandemic is not only increasing dependency ratios but reducing the supply of highly trained people for running the private and public sector institutions of development.

South Asia constitutes 40 percent of the total and still has heavy concentrations of poor in areas of high agricultural growth potential. India as the largest by far of the South Asian countries has been experiencing better than three percent growth in per capita income for over a decade and a half. Poverty declined drastically in the 1980's. It is likely that the slowing of the agricultural growth rate brought the poverty decline nearly to a halt in the 1990's. However, the basic institutional structures are in place not only to resume agricultural growth, but to ensure that that growth reaches the poor. The political system is also committed at least in rhetoric to reduction of poverty. Thus, it is in South Asia that a major portion of the poverty reduction target must be met.

There are significant pockets of poverty in Southeast Asia and Latin America. Growth rates are likely to be so high in Southeast Asia that even though the poverty is now, much as in the case of China, concentrated in low agricultural productivity areas, those poor will nevertheless be soaked up in non-farm growth. Latin America poses a difficult problem because with the highly skewed distribution of income and land, growth tends to reduce poverty little or not at all. The income distribution in Latin America tends to worsen with growth, in sharp contrast to areas of greater equality and agricultural led growth where distribution improves.

Although only five percent of the world's poor are located in Eastern Europe and Central Asia, it is notable that the number of people in poverty by the one dollar per day criteria has soared from essentially nothing in the mid 1980's to some 24 million in 1998. The only favorable sign is that it seems to have leveled off at this level. Hopefully economic recovery will bring rapid decline in poverty.

Given the immense magnitude of the poverty reduction targets, there must be a major emphasis on South Asia and Africa; but the other areas cannot be neglected. They too have a human dimension, and are numerically an essential part of the target achieving exercise.

Rural/Urban Division

Poverty is largely a rural based phenomenon. That is dramatically so in the low-income parts of the world where poverty is concentrated. In general, a higher proportion of the rural population falls under the poverty line than is the case in urban areas. In Africa, 80 percent of the poor are in rural areas, while in South Asia, 79 percent are rural (Table 2). Even in East Asia and the Pacific 87 percent are rural, and 61 percent in the Middle East and North Africa. It is only in the much higher income, low poverty percent areas such as Europe and Central Asia and Latin America and the Caribbean that the proportion of its poor in the rural areas falls under 50 percent. Even in those areas, in the poorer countries the proportion is similar to that in the poor regions.

However, even these high numbers understate the importance of rural poverty. That is because a substantial portion of urban poverty is the product of large rural/urban income differentials and consequent migration of very poor people from rural areas to wait in poverty ridden slums in the cities for a well paying urban job. The economics of that process are well delineated in a classic article by Todaro and Harriss (Harriss and Todaro 1970; Todaro 1969).

If urban poverty were a product of urban growth, there would be relatively more urban poverty than rural poverty in Southeast Asia, relative to Africa. But note that in Africa, urban poverty is high and growing rapidly (UNDP 1998a). In Southeast Asia, there is essentially no urban poverty by the World Bank's $1 per day income standard.

In 1993, the urban poverty in Vietnam was 25.9% and rural poverty was 57.2%, as measured by the national poverty line (World Bank 2001).Likewise in Nepal, the urban poverty incidence was 23% and the rural poverty incidence was at a high of 44% in 1995/96 (Ibid.).. According to the World Bank, Bangladesh had a rural poverty incidence of 39.8%, while the urban poverty rate was only 14.3%, using the 1995/1996 national poverty line (Ibid.).

Table 2. Rural Population living on less than $1 a day and the headcount index in developing and transitional economies, 1996.

Regions	Proportion of poor in rural areas (%)
East Asia and the Pacific	87
Sub-Saharan Africa	80
South Asia	79
Middle East and North Africa	61
Latin America and the Caribbean	41
Europe and Central Asia	35

Source: World Bank as cited in the Washington Post 1996.

A 1993-4 survey of Madagascar shows that 77% of the rural population fall below the poverty line, while 47% of the urban population fall under the poverty line (Ibid.).

The reason for low urban poverty in Southeast Asia is that urban areas have grown rapidly in the context of increasing rural incomes. Therefore, rural people rarely want to go to the city unless urban income will immediately be above the poverty level because they can do better than that in rural areas. In contrast, in Africa, with declining per capita rural incomes and very poor or non-existent rural services, being unemployed in the city is a reasonable alternative in the short run and promises something better in the long run .

Accelerated agricultural growth actually increases the rate of growth of the non-farm population due to rural demand structures, but it disperses the urbanization and discourages moves to urban areas unless incomes are immediately better. Efforts to solve urban poverty in Africa through better urban amenities without raising rural incomes will only encourage even more urban migration. Thus, poverty reduction in urban and rural areas starts in the rural areas.

Micro-Geographic Regions

In low-income countries, the number and density of the poor tend to be directly related to the productivity of agricultural resources. That is because historically in a low-income country, the high productivity agriculture allows support of many more people than are needed to produce the crop. Either the farms are continuously divided with more and more underemployment of labor or some gain control of the land and hire only the labor they need, the rest being supported in a shared manner by the employed laborers, all

Examples of such phenomena are the great irrigated plains of India and Bangladesh. But, the same phenomena can be seen in some of the high productivity parts of Africa, such as Kenya and Rwanda.

Once development commences, leading to rising incomes of farmers and jobs for the underemployed in these areas, poverty is rapidly reduced.

The resource poor rural areas have low population densities and are more uniformly low income than the better off areas. The land cannot support non-workers, whether land owners or laborers. However, since these areas respond less well to improved technology it is difficult to reduce poverty.

In low-income countries, poverty is distributed throughout the rural areas with a higher proportion of the poor populations in resource-poor areas, but a greater density of poverty in the richer areas. With the move to middle income status, poverty is quickly eliminated in the good resource areas and remains to be stubborn pockets in the poor resource areas. As long as substantial poverty exists in high productivity areas, that is where the highest returns to poverty reduction will occur. That opportunity of course requires a research system that is constantly increasing resource productivity in those responsive areas. The dilemma for development investment allocation occurs when rural poverty is restricted to the poor, unresponsive resource areas. That issue will be treated in a later section.

Characteristics of the Poor

William Faulkner said of the rich in response to the question of how are they different: "they have more money." The poor have less money. However, poverty is indeed multi-faceted. The latter is a common theme in contemporary treatment of poverty. The World Bank, in widespread interviews of poor people in 23 countries found poverty defined as "material lack, bad social relations, insecurity and vulnerability, low self confidence, and powerlessness" (Coudouel and Hentschel 2000). Several of these features trace back to income and the rest are closely related to victimization that is frequent because of the lack of access to political power.

The poor are often victimized because of their poverty and powerlessness. When interviewed, the poor constantly cite their problem of victimization by the police and others in authority. That is why so much of the contemporary literature on poverty emphasizes empowerment of the poor.

The poor are also poor in part because of low quality human capital – minimal education and poor health, which interact with each other and with income. The poor are principal sufferers from intergroup conflict. They have less ability to move or to protect themselves from victimization.

These many facets of poverty are reflected in statements from the DAC, the World Bank and the EU. Each uses different words in their approaches to poverty reduction, but the essentials include:

?? Broad-based, pro-poor growth designed to improve economic opportunities quickly, and to favor the sectors, regions and endowments of the poor. This involves direct actions to increase the physical and human capital of the poor and improve rates of returns on their assets.
?? Safety nets to protect those who may not be included in initial phases of growth. This includes improving human security by helping the poor prevent and manage shocks and helping the poor meet basic human needs.

?? Empowerment, including pro-poor governance and removing social barriers to poverty reduction. This involves democratization, participation and decentralization.
?? Promoting equality (gender, ethnic, etc)
?? Promoting sustainable use of the environment and improved resource management.

Income Poverty

All aspects of poverty relate to income. Treating other aspects of poverty without raising income simply postpones or even exacerbates problems for the poor. Improved health increases the employment problem (but the answer is not to remain in poor health, it is to concurrently ensure that jobs will multiply); fewer children poses real risks of support when calamity strikes; more education does little good without increased jobs (it does help in migration a second best solution to poverty with its corollary of dysfunctional families). Telling the poor they are empowered, when they are not, may lead to violence with disproportional mortality falling on the poor.

Thus it is essential that pro-poor growth ensure that employment opportunities expand for the poor and that their incomes rise. That of course is not to say that the poor automatically benefit from improved opportunity. Special measures to ensure participation may be necessary.

Gender

Gender relations to poverty are complex. The extent to which female-headed households have lower income than male headed households varies from country to country, depending on complex social and economic relations. Thus, it cannot be unequivocally stated that women are overrepresented in poverty.

However, it is evident that poor women generally have greater difficulty in availing of programs that reduce poverty. They have less access to the institutional structures, such as credit and input supplies, that are the basis for increased farm incomes and initiation of small-scale non-farm enterprises that create so much employment when fueled by rising farm incomes. Thus, poverty programs must give special attention to access by women.

Further, women have special problems due to high mortality in child birth in the context of inadequate access to reproductive health facilities as well as major responsibilities for child rearing in a context of inadequate schooling facilities. For that reason the 2015 objectives have special targets in these areas for women's education.

Human Capital, Health and Education

The poor are generally in ill health and poorly educated compared to the more well off.
Targeting health services to ensure participation of the poor can improve their well-being, reduce the risks they face of loss of employment, and in conjunction with increased economic opportunities, can increase the incomes of the poor. However, it is difficult to improve health without improved nutrition and other aspects of rising incomes, as it is difficult to ensure school participation without promise of employment in something better than completely unskilled laboring.

However, the lesser educational attainment of the poor continues to be a barrier to new employment opportunities.

Thus, improving the human capital assets of the poor is a critical need as employment opportunities multiply. Improved health is also an important form of human capital, the lack of which disadvantages the poor from moving into fuller employment. Thus, the educational and health aspects of the poverty targets are important.

Physical Assets

The poor are deficient in physical assets. They are mostly in rural areas but have very little land and therefore benefit little from the direct effects of improved farming practices. However, it is increased employment that offers the way out of poverty for the bulk of the poor -- that comes largely from the indirect effects of rising farm incomes. Land reform is probably more integral to increasing incomes of the farmers who spend locally, and removing absentees who take the money from agriculture and spend it on capital intensive goods and imports, rather than the local rural community than in giving assets directly to the poor.

Empowerment

Contemporary concern for poverty places substantial emphasis on empowerment. The OECD/DAC refers to this as rights based dimension of poverty (OECD 1999). If the poor can be organized to ensure their rights, including the delivery of services targeted to the poor in particular, then they will be better served.

It is important to distinguish between decentralizing to local units and empowering the poor. The former may be desirable for efficient investment for growth in rural areas, but the control may be with local elite with little interest in the prospects of the poorer members of their communities. Thus, empowerment must proceed carefully and most likely in conjunction with measures that raise the incomes and hence the economic power of the poor.

Insecurity and Conflict

The poor are by definition close to the margin of minimum subsistence and so even small income shocks push them under - perhaps losing what few assets they have. Therefore, substantial increase in income will provide a margin that can absorb such shocks. The poor also face insecurity with respect to personal safety and violence. Raising income helps even on this and organization of the poor to empower them to demand protection by and even from local authorities are important.

The poor suffer immensely in major conflicts with very poor resilience to those shocks. Thus, the World Bank and OECD/DAC emphasize conflict resolution methods. According to Coudouel and Hentschel, “security poor” is a population that faces high risks, which can be material “through income shock or asset depletion or relating to personal safety through violence or political persecution” (Coudouel and Hentschel, 2000). OECD/DAC puts this dimension of poverty as the lack of political freedom and security under its rights based dimension” (OECD 1999).

Conflict not only creates poor people by displacement and asset destruction, but also disproportionately hurts the poor who have little protection from lawless groups. Thus, efforts to prevent conflict and particularly ethnic based conflict is important to the poor. However, again cognizance needs to be taken of the extent to which lack of rural development and consequent unemployment of large numbers of young men provides the tinder ready for the conflagration. The steady deterioration of farm incomes in Rwanda with soil fertility decline resulted in massive rural unemployment at just the time that the ethnic strife burst out.

Poverty Reduction and Related Objectives

Poverty reduction is closely related to other objectives. Accelerated economic growth is essential to poverty reduction. However, it must be a pro-poor structure of growth. Fortunately, that is generally the fastest growth path, utilizing abundant labor supplies and under utilized agricultural resources. Democratization and improved governance give more weight to rural people and thus to agriculture since the bulk of the population in poor countries is rural. That in turn assists pro-poor growth. Pro-poor growth rapidly increases the demand for educated people and for healthier people as well as the returns to family planing. In general, improved agriculture is pro-environment. Lifting the poor increases their resilience in the face of disasters. And, perhaps most important, the requisites of pro-poor growth play very much to longstanding comparative advantage of the United States in building the key institutions for rural income increase and the surrounding sound macro economic policies and encouragement of private enterprise.

Since agricultural growth and rural development are central to pro-poor growth, the critical issue is to turn away from the powerful forces of urban bias and towards giving weight to agriculture and the rural sector commensurate with its weight in poverty numbers and role in achieving rapid growth

Broad-Based Economic Growth and Agricultural Development

Accelerated growth is a necessary condition for large-scale reduction of poverty; and accelerated agricultural growth and the associated stimulation to rural non-farm employment growth must be a major component of that growth if the poor are to benefit. Thus, if the goal of poverty reduction is to be met along with other objectives of growth then attention must be given not just to the basic requisites of growth, but to ensuring that agricultural growth is a leading part of the overall growth process. As will be discussed later, ensuring accelerated agricultural growth actually speeds up the overall growth process and hence there is a complementary relationship between agricultural and overall growth, not conflict.

Free markets and expanding private sector activity are essential to pro-poor growth. Rural growth and reaching the poor in that process requires myriad activities by small producers --farmers, marketing agencies, input suppliers, and small non-farm enterprises. Those small enterprises cannot maneuver myriad government regulations as can large firms. Reducing the role of government, privatizing and allowing markets to allocate resources is vital to agriculture. That is all the more so because narrow, urban, elitist governments tend to rig prices against agriculture through manipulation of overvalued exchange rates and other price related actions.

Thus, agriculture, rural development, and pro-poor growth are major beneficiaries of the privatization and open markets of contemporary policy emphasis. Of course, as will be developed below that must not be at the expense of vital positive functions needed from government in support of small-scale firms.

Democracy and Good Governance

In a pro-poor context, the measures of democratization and good governance must extend to the rural areas that encompass the bulk of the poor, and in poor countries, the bulk of the total population. That requires, in particular, attention to decentralization and local governments.

Pro-poor growth must include accelerating growth in rural regions and achieving broad participation in that growth. A major reason for the failure to pursue rural growth lies with urban biased elitist governments.

Democratization that emphasizes fully enfranchised rural people might well bring inefficient allocation of resources for growth --e.g. agricultural subsidies; and perhaps it would not bring increased investment in agricultural research, although enlightened rural leaders certainly brought agricultural research to the United States at an early stage in scientific evolution. But, it would certainly bring critical elements of rural development that rural people universally crave --physical infrastructure, including roads, telephones, and electricity, and improved education and health. They are all important to accelerated rural growth. They are inputs to growth as well as benefits from growth.

Good governance is particularly important to rural development and meeting the needs of the poor, because government plays a larger, more essential role in pro-poor growth and poverty reduction than in the export led growth that is central to contemporary growth policy. In the simplistic view of contemporary approaches to growth, governments' functions are very limited. Reducing government is virtually synonymous with improved governance. In pro-poor growth, the role of government is more complex. Government capacities are no less limited in pro-poor growth and so improved governance and prioritized decision making as to what governments do is increasingly important. In addition, governments must provide safety net programs for those poor who are left out of the growth process.

Because of the greater burdens on government of pro-poor, rural development, not only is it necessary to diligently work to shift activities from the public to the private sector, but the more non-governmental organizations of rural people can be developed to take on activities the more government can concentrate and effectively carry out the hard core activities that must fall to it. However, civil society must be seen in partnership with government. Unfortunately, in the current context of so many failing governments in Africa, civil society seems a substitute.

Human Capacity Building, Health Protection and Population Stabilization

Human capital formation is vital to pro-poor growth. Expansion of non-farm job opportunities in rural areas increase the demand for educated people; fuller employment requires that the poor be healthy to participate fully in that employment; higher returns to education increase the benefits to the poor of smaller families. Thus, pro-poor growth is fully consistent with building human capacity both as an objective and as a means towards the objective. It is essential that those activities be pursued in rural areas and that ancillary investments be made in rural infrastructure. A prime example is rural roads that are essential to staffing of schools and drivers.

PART III. ECONOMIC GROWTH AND THE POOR

It is generally understood that the massive reductions in poverty called for by the 2015 targets can only be met by rapid economic growth. It is less fully understood that the structure of growth is integral to the impact of growth on poverty reduction. It is important, because of some contrary views, to establish the powerful relationship between growth and poverty. Growth reduces poverty. Data presentation will exhibit that general relation, and then show that the structure of growth matters very much to the extent to which poverty is reduced by growth, and that agriculture bulks large in that strategy.

The General Relation Between Growth and Poverty Reduction

The traditional interpretation of basic data on economic growth led to the conclusion that in the early stages of economic growth, inequality tended to increase and decreased only during later stages of growth. This pattern is often called a J curve, for its distinctive shape, or the Kuznets curve, for the data generated by Simon Kuznets that was thought to document this relationship (Kuznets, 1955).

Most of the analysis that led to this conclusion was based on historical data for the currently high-income countries. But, a range of literature from 1971 to 1995, covering developing countries, seemed to support the Kuznets hypothesis about worsening of income distribution in early stages of growth. More recent literature, based on more sophisticated data analysis finds contrary results.

Bruno, Ravallion and Squire (1998) reviewed 63 surveys for 44 countries spanning 1981-92 and found no support for the worsening of income distribution. They further reviewed data from 45 countries for which time series data were available and found the bulk of variation in income distribution accounted for by differences among countries and only 7 percent accounted for by variation over time within countries. From these data, the distribution of income is quite stable over time within countries.

A large number of other studies confirm that growth does not worsen income distribution, and therefore does decrease absolute poverty (Fields, 1989, World Bank, 1990, Squire 1993, Lipton and Ravallion 1995, Ravallion 1995) or the proportion of the population in poverty.

Even before the current plethora of data on poverty reduction, time series for Taiwan showed that its pattern of growth provided decreased inequality right from the start (Lee, 1971). For example from 1970 to 1985, the Gini coefficient fell from 0.321 to 0.277 (Thorbecke and Wan 1999). Now that the relation of agricultural growth to poverty reduction is better understood and documented, the Taiwan case is particularly important for lessons about the processes that rapidly reduce poverty.

India has the best, and perhaps only long-term set of comparable data on income distribution in a large developing country encompassing considerable geographic variation in the various poverty related variables. These data give "no sign that higher growth rates in India put upward pressure on overall inequality" (Bruno, Ravallion and Squire, 1998).

Timmer shows, based on sophisticated analysis of the Deininger and Squire data (1996) that "each one percent increase in per capita income for the overall population is matched by a one percent increase in income of the bottom forty percent in the income distribution" (Timmer 1997). That is, growth is neutral to the distribution of income; all income classes participate equally.

Datt and Ravallion (1998a) contrast for India the rates of real consumption per person during the period 1958-75, when consumption declined at the rate of 0.93 percent per year, with a real consumption growth rate of 1.76 percent over 1976-94. In the former period, the proportion of the population in poverty increased at a rate of 1.18 percent per year, while in the latter period it declined at 1.91 percent per year.

Timmer (1996) also shows for Indonesia, for the 25 years between 1970 and 1995, the income of the lowest quintile in income distribution rose from a level of half the poverty line to more than twice the poverty line. The income of the two lowest quintiles grew at 6.1 and 6.8 percent per year respectively, while the average was 4.9. Thus, not only was absolute poverty reduced rapidly, but the distribution of income became more equal.

Ravallion and Huppi (1989) show for Indonesia between 1984 and 1987, the proportion of the population under the poverty line declined from 33 percent to 22 percent - that is, a drop of one third in three years.

Ravallion and Chen (1989) show for China an elasticity of poverty reduction with respect to average consumption that is generally higher than for other countries. Using the World Banks $1.00 per day standard the elasticity is -3.1. That is a 10-percent increase in average consumption drops the proportion in poverty by 31 percent. A broader definition that brings half the population under the poverty line drops the elasticity to -2.6 - that is, a 10-percent increase in average consumption brings about a 26-percent decrease in poverty. The elasticity drops substantially for definitions that place a higher proportion of the population in poverty - in half for one that places 75 percent of the population in poverty. Thus, growth brings disproportionately large reductions in poverty for the groups furthest below the poverty line. We will see later that the high elasticities and improvement in distribution are related to rapid agricultural growth.

All the preceding studies calculate relations between growth and more complex definitions of poverty, in addition to the headcount measure. In every case, the impacts are roughly the same or somewhat more favorable for the very poorest.

If the distribution of income does not change with growth, then a simple calculation shows to what extent population is lifted above any given absolute income line. It is on this basis that the World Bank estimates the effect of growth on poverty reduction. As we will see later, such simple estimates ignore the substantial variance in this average relation and shift attention away from the critical policy requirements for poverty reduction. In particular, it distracts attention from the requisites of pro-poor growth and the central role of agricultural growth in pro-poor growth.

Analysis of 20 countries shows an elasticity of poverty reduction with respect to income increase of -2.12 (Bruno, Ravallion and Squire, 1998). Ravallion estimated the elasticity of poverty reduction (proportion of the population below the poverty line) with respect to income for India as -2.2 (Datt and Ravallion 1998a) and for Indonesia as -2.1 (Ravallion and Huppi 1989). A figure of -2 means that starting with 40 percent of the population below the poverty line and a one-percent rate of increase in the per capita income, the ratio would drop to 39.2 percent in the first year. It would drop to 36 percent in the first year with a five-percent growth rate in per capita income, and would drop in half in seven years.

The World Bank uses these average elasticities to show the impact of growth on poverty reduction. But, variation in impact of growth on poverty reduction is so large that it is essential to choose the structure of growth that is giving a large impact on poverty reduction. Ravallion and Chen (1989) show that using the absolute poverty measure of $1 per day of income, growth only explains 37 percent of the change in poverty. That leaves 73 percent explained by other factors. Obviously there are other important factors at work. That is the subject of the next section.

The Structure of Growth and Poverty

It is clear from the preceding analysis that there is large variation among countries and over time in the relation between growth and poverty reduction. That variation is largely due to variation in the rate of growth in the agricultural sector. However, the agricultural impact on poverty reduction is seen in its effect in increasing the demand for labor intensive non-farm goods and services produced in rural and market town areas in small-scale enterprises. These goods are of low quality, with high transaction costs in international trade, lending their market to be dependent on domestic sources, primarily agriculture. They are, in the trade vernacular, non-tradable commodities.

Poverty and Agricultural Growth

The structure of growth matters very much to the extent of poverty reduction. If poverty reduction is the objective, then certain structures, or sectors, must conform to that growth. Two recent studies give detailed data on this issue. They confirm similar results from earlier, but much less comprehensive data. The two recent studies are by Ravallion and Datt (1996) for India, and Timmer (1997) for a cross-section of a large number of countries.

The two studies differ in methodology and in source of data, but find the same striking relationship. These studies are reinforced by several for individual countries. While this paper draws on all the studies, and highlights the structural issues, it does draw particularly heavily from India. That is advantageous because it does allow the picture to be drawn from a single basic source without the weakness of cutting across very different countries. However, the Indian experience, like that of any one country, has specifics of its own. In any case, the India data are confirmed by the cross national study from Timmer, individual studies for other countries, and by theory. Thus, the Indian data do end up being compelling.

Preceding the studies of Timmer and Ravallion, Montek Ahluwalia (1978) presented data showing that increased agricultural output per head of the rural population decreased poverty. Dharm Narain furthered this analysis with important conceptual additions (Mellor and Desai 1985). He too shows a major effect of agricultural growth in reducing poverty. Mellor and Desai (1985) elaborate at length on the relations, the supporting data, and alternative views.

For both Ahluwalia and Narian, the data cover a period when both agricultural growth and poverty fluctuated considerably, without any sustained agricultural growth or poverty reduction. Thus, their analyses essentially deal with a situation not of steady growth but of fluctuations in income. In practice, those fluctuations were substantially driven by the varying effect of weather on agricultural production.

The Ravallion and Datt (1996) work for India is recent enough to include periods with far higher agricultural growth rates than the earlier studies as well as sustained growth beyond previous peaks and declines in poverty far beyond previous troughs.

Ravallion and Datt relate change in yields of crops to poverty. They show that reduction in poverty is a result of growth within sectors, not the transfer of labor from a low earning sector to a high earning sector. The latter is the basis for the Kuznets J curve. But what is truly striking is that agricultural growth and tertiary sector growth have a major effect on poverty reduction and manufacturing growth does not. Further the service sector growth that has the favorable effect is the small-scale portion of that sector, which we will show later is itself closely related to agricultural growth

The Ravallion and Datt data show that 84.5 percent of the substantial poverty reduction in India in the period of analysis was due to agricultural growth. That is truly startling data. They also show little effect of the many programs that directly target the poor.

Growth of manufacturing in India has historically been biased towards large scale capital intensive industry, so the manufacturing data may be somewhat biased as compared to a market oriented structure (Mellor 1976). But, the Timmer (1997) data confirm the Ravallion Datt findings for a large cross section of countries.

The various studies show that industrial growth does reduce poverty from the direct effect of income increase, but it concurrently has an unfavorable effect on the distribution of income thereby reducing the effect on the poor. Agricultural growth, including its indirect as well as direct effects, does not have the unfavorable distributional effect.

In a later article, Datt and Ravallion (1998b) also relate rural wage rates and food prices to poverty. All three have a substantial effect. Of course, rural wages are importantly influenced by the volume of agricultural production, as we will point out later. Food prices are related to agricultural production.

Ravallion and Datt show that wage rates are important to poverty reduction and that higher farm productivity is closely associated with higher wage rates. Similarly, food prices are important and higher farm productivity reduces food prices. Thus, it is farm production that drives poverty reduction. In a later section, we will elaborate on this relation of agricultural growth to non-farm employment and hence to wage rates.

Peter Timmer (1997) uses the Deininger-Squire data set for poverty and purchasing power for 35 developing countries and relates those data to agricultural GDP per capita. "A one percent growth in agricultural GDP per capita leads to a 1.61 percent increase in per capita incomes of the bottom quintile of the population."(p.3) Unlike Ravallion and Datt, Timmer shows a positive elasticity for industrial GDP, but the agriculture elasticity is 38 percent larger than the industrial elasticity.

The 27 countries and 181 observations (studies) from 1962 to 1992 in the Timmer sample of the Deininger-Squire data include 3.3 billion people in 1995 or two thirds of the population of low and middle income countries as classified by the World Bank (Timmer 1997). On average, agriculture accounted for 25 percent of GDP and 51 percent of the labor force. Countries are roughly equally divided among regions of the world, with some underrepresentation of Africa.

Note that Ravallion and his colleagues relate agricultural output per unit of land to poverty reduction while Timmer relates agricultural output per worker. Ravallion provides a sound theoretical argument for his approach. And, the mechanism of agricultural output growth is largely increased yields of specific crops and increased intensity of agricultural production, consistent with Ravallion's argument.

However, since we will focus on the linkage to non-agricultural growth both in interpreting the Ravallion and Timmer data and in employment calculations, it is the behavior of farm family incomes that is important. That is better measured by income per worker.

Datt and Ravallion (1998b) focus on the real labor earnings per acre and agricultural productivity. His model brings in three variables: the productivity of labor in agriculture, yields in agriculture, agricultural wage rate, and food prices. The former two have about equal weight in poverty reduction and the food price elasticity is also high. Of course, all three are related to agricultural production and incomes, as we will elaborate later.

Yield is shown to have a major effect on the real wage rate, and the effect is eight times larger in the long run than the short run, showing that it takes time for this important component of poverty reduction to show itself.

As we will point out below, this lag is too much if the wage effect is entirely from agricultural labor where the tightening of the labor market would be immediate. It is consistent with the argument presented below, that the wage effect comes from the agricultural stimulus to non-farm employment. This point is neglected in the empirical data but not in the theoretical arguments.

While the emphasis here is on the simple measure of the proportion of the population under the poverty line, it is notable that agricultural growth reduces inequality among the poor as well as lifting the poor above the poverty line.

Ravallion's data do show that non-agricultural output growth explains decrease in poverty, but only if agricultural output per acre is excluded as a variable. That means that the non-agricultural output stimulated by the agricultural output is important but gets picked up by the agricultural yield figure when the latter is included. That implies that the non-agricultural growth that reduces poverty is that part stimulated by the agricultural growth.

In the Timmer (1997) sample of countries, output per capita is three times higher in non-agriculture as agriculture. This means that agricultural growth does much more for employment and poverty reduction than non-agricultural growth, while non-agricultural growth has much more of an impact on over-all growth rates.

Datt and Ravallion (1998a) do not find a declining trend in the elasticity of employment with respect to agricultural output. The power of the relationship holds up over time. Thus, the current decline in the rate of poverty reduction is due to decline in the agricultural growth rate, not due to declining power of that variable.

Huppi and Ravallion (1991) find that wage earnings of poor self employed farmers grew faster than earnings from any other source and were a major cause of decreased poverty. Wage earnings of poor farmers in Central Java doubled over three years. Since wage rates changed little during that period, the effect was largely from increased employment. Most of the employment growth came from a booming rural non-farm sector. Growth in cash crop income was more important to the non-poor than the poor (strengthening the case that it is the indirect effects of agricultural growth that affects the poor).

Ravallion (1989) shows that the poor lose from agricultural price increases in the short run, but not in the long run. That is consistent with price increase stimulating increased demand for labor through increased agricultural production in the long run. See also Mellor (1968 and 1978).

Gini coefficients for sub-sectors of the economy tend to be unstable. However, the following data from Sharma and Poleman (1993) corroborate other evidence on the high degree of equality in specific agriculture related sub-sectors. They show that increments to crop income alone skews the distribution towards the well to do, with a Gini coefficient of 0.86, far above the national Gini coefficient. That finding is of course consistent with early critics of the Green Revolution. See also Adams (1999) on this point.

In sharp contrast to crop income, the Gini coefficient for dairy production, which is very important to the poor in India because of its labor intensity, is 0.11. That is an extraordinarily low Gini coefficient, but is quite consistent with the observation that dairy animal numbers vary little by size of farm, and the well known impact of increased dairy production on the poor. The Gini coefficient for off-farm work in rural areas is a still low 0.22. That also reinforces the data that show off-farm income of the rural poor is an important source of poverty reduction (Adams, 1999). Thus, when rising agricultural incomes are spent in those sectors, they redistribute income towards the poor.

The data show clearly that it is growth of agriculture that reduces poverty, not growth in general. One misleading interpretation should be avoided. Typically high overall growth rates are achieved when agriculture grows rapidly. That is because the resources used for agricultural growth are only marginally competitive with other sectors and so fast agricultural growth tends to be additive to growth in other sectors, as well as being a stimulant of growth in the labor surplus non-tradable sector (Mellor 1976).

The countries that grew the fastest from 1985 to 1995 experienced a narrowing of the income gap (Timmer 1997). That means that agricultural growth resulted in faster over-all growth and an improvement in the income distribution. Thus, emphasizing agriculture in order to improve income distribution does not result in slow growth. The sectors are more complementary than competitive. Conversely, leaving out the forces that accelerate agricultural growth, as has been increasingly the case in the past decade provides slower growth and leaves out the poor.

The average elasticities cited at the beginning of this section are strongly influenced by high agricultural growth rates. Thus, it is grossly misleading to think of those elasticities as applying to some average growth rate. Those are predominantly the elasticities when agriculture grows rapidly. In the 1990s, prior to the economic setback in East and Southeast Asia, overall growth rates were high, but agricultural growth rates had slowed, and hence the pace of poverty reduction declined.

Thus, agricultural productivity increase has a major effect in reducing poverty, and the effect is relatively greater in its impact on the poorest and the distribution of income among the poor. Industrial growth has much less or even no effect in reducing poverty (Ravallion and Datt 1996 and Timmer 1997). Service sector growth has no effect for the large-scale part and a substantial positive effect for the small-scale portion.

If growth occurs leaving the agricultural sector out, two onerous burdens fall on the poor. First, the overall growth rate will be lower. Second, the part that reduces poverty will be missing. As we will show later, rapid agricultural growth is more easily achieved now than some decades ago, but it does require overt actions by government.

Poverty and Rural Growth

Ravallion and Datt (1996) also analyze the Indian data according to urban and rural income. They find that the rural urban population shift (the Kuznets effect) has little effect in reducing poverty. Neither does urban growth.

Urban consumption growth increases inequality in urban areas, while rural growth improves the urban distribution.

The impact of rural growth on poverty reduction is nearly three times as great as urban growth. The point, as we will emphasize later, is not that rural growth should be pursued in place of urban growth, but rather that agriculture and the rural sector should not be neglected. If it is neglected, employment will increase little and poverty will increase substantially. That is presumably because increased rural incomes reduce the queue of urban unemployed waiting for jobs (see Todaro, 1969, Harriss and Todaro, 1970). Rural growth, of course, has a major impact on reducing rural poverty. Ravallion and Datt (1996) find that rural growth reduces urban poverty even more than does urban growth. Urban growth does not reduce rural poverty.

Agriculture Led Non-Farm Growth

The circumstantial evidence is strong that agriculture's powerful poverty reducing effect comes substantially through its impact on the rural, non-agricultural, small-scale sector. There is considerable knowledge of this sector from the studies of Liedholm and his colleagues (Liedholm and Meade, 1987). They conclude that this sector is large, employment intensive, expands readily in response to increased demand, and is largely driven by agricultural demand.

Nevertheless, the evidence about the size of the sector, the proportion of incremental farm income spent in this sector, and the employment intensity is meager. The evidence of its links to agriculture and its importance to employment calls for intensive study. The following paragraphs summarize the current state of knowledge of this sector.

Because the agricultural sector in low-income countries is so large, accelerated growth into the four- to six-percent range adds immense purchasing power (Mellor 1995). That is because this growth is substantially driven by improved technology (yield increasing crops of the Green Revolution) and mobilizes previously under-utilized farm family labor resources within agriculture.

Several empirical studies cited above document that farmers spend a substantial proportion of incremental income on locally produced non-farm goods and services. Liedholm and Meade turn that around and state that the rural non-farm sector derives a high proportion of its demand from agriculture. Since this is a large employment intensive sector it is logical to turn to these forces to explain the powerful effect of agriculture in increasing employment and reducing poverty.

This argument is also consistent with the lag in the effect of agricultural growth, the fact that highly skewed distribution of income from land removes the poverty reducing effect, and the important wage increasing effect of agricultural growth. Further, the power of this income effect causes a tightening of the labor market that cannot be explained by the agricultural growth alone. Because it is the income growth that drives the process it does not matter that the initial income effect is concentrated in the hands of the middle peasant rather than the poor. The poor benefit in the next round.

Three questions arise about this process. How large is the sector that is driven by agricultural incomes and is it a tradable or non-tradable sector? How employment intensive is this sector? And, to what extent is it driven by purchase of production goods and to what extent by consumption goods?

The Size of the Agriculture Driven Sector

There are two ways to get at the issue of the size of the agriculture driven non-farm sector. One is by surveys of the production pattern and source of demand for output for the sector thought to serve agriculture; and the other is through analysis of the consumption patterns for incremental income of farmers. Neither type of information is well developed. Farmer expenditure data rarely give sufficient breakdown to allow analysis of the relevant parts of expenditure. Surveys of small business in rural and market town areas are infrequent and usually lacking in the necessary detail with respect to sources of demand.

Delgado spells out in some detail why it is the non-tradable sector that is important to the employment increasing poverty reducing impact of agricultural growth (Delgado 1998). The non-tradable (products and services that do not enter international trade) sector cannot be stimulated to growth by international exports. The labor force and production systems are such that they are not employable in the short run producing goods and services for other than the rural market.

Of course, in the long run, with education and gradual integration of markets, labor will move into tradable sectors. The story of low incomes is the slow pace at which that growth occurs. In the meantime, rapid growth in demand for such output provides employment, expands the number of entrepreneurs, and creates a favorable environment for the transition to tradables. The interaction between agriculture and this large sector is an important part of the transition to a modern economy.

Currently, a major emphasis on stimulating growth in low-income countries is on exports, and the question arises why cannot any stimulus provided by agriculture to employment growth be more easily provided by foreign demand. In some respects, the very thought is somewhat silly. Is it reasonable to think that all or even the bulk of incremental demand for the vast labor resources of all low-income countries can come from the high-income countries?

Of course, an important supplement can come from exports and that increment is apt to make the difference between moderate and rapid growth. Also, exports of labor intensive commodities provide the foreign exchange to allow import of capital intensive commodities, thereby allowing domestically available capital to concentrate on labor intensive goods and service. But, in general, much of incremental demand must come from domestic sources.

One might ask the contrafactual question of how reasonable it is to think that the bulk of the now widely dispersed population with already existing housing infrastructure can be accommodated in the short run in the major cities near ports that are essential for competition in international markets? Thus, the issue is not one simply of tradable versus non-tradable.

In any case, peasant farmers spend a high proportion of incremental income on low quality goods and on non-exportable goods and services. Examples are expanded housing, personal services, increased lower level education, increased health services, and local transport. Note that where labor is cheap, prospering farmers hire a substantial addition of labor so as to shift family labor away from farm production to education, leisure, and marketing activities (Hayami and Kikuchi 1999). These are all non-tradable and are produced primarily by labor with very little capital.

Consumption studies suggest that in middle income countries, e.g. Egypt, this sector, located in market towns and rural areas has an initial GDP roughly equal to that of agriculture (Mellor, 1999). It is striking that even at this stage of development the sector is large and non-tradable. In Africa, with very low incomes, it may be only one fifth the size of agriculture (Delgado 1998).

In very low income societies, with minimal commercial differentiation, as in most of Africa, the multipliers from agricultural growth to the non-farm sector are much weaker than in more differentiated societies. However, Delgado, in a careful analysis for sub-Saharan Africa, points out that marginal propensity to consume non-tradable agricultural commodities is very high.

In rural Africa, with high transaction costs derived from poor communications systems, much of agriculture is non-tradable. That is certainly true of much of livestock and horticulture sub-sectors, but it may well apply to the coarse grains as well. Since these are labor intensive sectors, with high propensities to consume them, considerable employment is generated within agriculture itself. Thus, an initial boost to income from yield increasing technological change may greatly increase employment through multipliers back into agriculture itself.

In this review, the high value, high-income elastic parts of agriculture are counted as agriculture, albeit a part of agriculture the demand for which may come importantly from rising farm incomes. Thus, the non-farm sector is seen as more limited, but nevertheless large. But, with this more restricted definition it should be recognized that in very poor societies the employment multipliers from agricultural growth may be quite large because of this circularity back into agriculture.

In middle income countries, the agriculture driven non-farm sector may be as large as agriculture (Mellor 1999). The incremental income in farmers hands will be spent more than proportionately in that sector. That is the income elasticity of demand is well above 1.0.

Employment in the Agriculture Driven Sector

Employment elasticities in the agriculture driven non-farm sectors are high, close to one. Increased output is driven by increasing demand. As long as real wages are constant, there is no incentive to increase labor efficiency. Since very little capital or land is employed in this sector, virtually all the gross income is return to labor.

Empirically, compared to farming, with half as much GDP in the sector, twice the labor intensity, the initial labor force is the same size as for agriculture. Typically in low income countries, about half of base income is spent on production services and locally produced consumption goods (Bell et. al. 1980, Hazel and Roell 1983).

With an average income elasticity of demand for these commodities of 1.5, employment expands at 1.5 percent of the base year for each percent increase in the rate of growth of agricultural income. With a 5 percent growth rate in agriculture, 2.5 percent population growth, the growth rate of the rural non-farm sector expands at a rate of 6.25 percent, the additions to employment in the agriculture stimulated local non-farm sector is nearly twice that of agriculture. [1]That is the key point about the agricultural growth impact on poverty.

Agribusiness and Consumption Goods

Fertilizer and other chemical and mechanical inputs to agriculture are in the tradable sector and tend to be imported or produced by capital intensive processes. Increased demand for such goods does not add much to employment and that demand could have been provided from sources other than agriculture.

In contrast, the local marketing service for these inputs and for output are both labor intensive and non-tradable, and the increase in demand from agriculture stimulates production and employment that are net additions to the economy that could not come from other sources. That will remain true as long as there is poverty representing inadequate employment opportunity for the wage earning classes.

Studies of marketing margins suggest that the stimulus to the rural and market town non-tradable sector is equal to about 10 percent of the value of incremental agricultural production since a high proportion of incremental production depends on purchased inputs and is marketed.

Consumption studies in Asia show about 40 percent of incremental income is spent on locally produced non-farm goods and service (Hazel et.al.1983). These are all highly labor intensive in their production.

Thus, consumption goods comprise about three-quarters of incremental demand for non-tradable and production services about one-quarter. It is the consumption expenditure that is dominant (Mellor and Lele 1973).

Rich Peasants and Income Distribution

A substantial literature in the immediate post Green Revolution period stated that the Green Revolution concentrated incremental income in the hands of the land owning classes, including the middle peasant or kulak, to use the Marxian term. Consequently, the poor did not participate in income growth. The concentration of income led to further concentration of land ownership. That was the basis for much of the anti-Green Revolution spirit of the 1970s.

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[1] With an elasticity of employment with respect to growth of 0.6 in agriculture and 0.9 in the rural non farm sector, then 5.0-2.5(1.5)+2.5=6.25. (5.0) 0.6=3.0. (6.25)0.9=5.6. 5.6?3.0=1.9=close to 2 times.

This exposition points out that in fact increased agricultural incomes in the hands of the middle peasant or kulak has powerful employment linkages, but they take time to operationalize. The initial studies did not allow for that time and in any case were only concerned with the direct affect of income growth.

The important point is that an initial skewing of the benefits of agricultural growth towards the higher income rural people is not antithetical to poverty reduction. The issue is not the initial distribution of the increased income, but the expenditure patterns from that income. Middle peasants in low income countries spend a high proportion locally on non-tradables, thereby providing a stimulus to production and particularly to employment that cannot be obtained in any other manner.

Delgado (1998) carefully documents that in Africa, incomes and commercial differentiation are so low that the non-farm goods and services receive relatively little stimulus. However, the increment to demand for agricultural non-tradables is very large, stimulating a large increase in demand driven production of high value agricultural products (livestock and fruits and vegetables), and even for some non-tradable basic staples. Thus, an initial stimulus to agricultural growth from technological change (high-yielding varieties of basic staples) has strong multipliers back to other sectors of agriculture that are highly labor intensive. The effects are precisely as described for the rural and market town non-farm sectors.

The Interaction of Tradables and Non-Tradables

Currently, the emphasis in development strategy is on export led growth. It is presumed that by opening to trade, exports, which indicate a developing country's comparative advantage, will increase rapidly. Concurrently, the profitability will attract foreign capital. The result is rapid growth. As will be noted below, such growth has favorable indirect effects on poverty reduction, but the direct impact is modest.

The reasons for that are two:

First, export led growth tends to concentrate in the major port cities, whereas the bulk of the poverty is in rural areas. Moving all the poor to the cities takes time, and involves additional capital costs for housing and other amenities.

Second, while exports are less capital intensive than late stage import substitution, they are nevertheless sufficiently demanding of capital, including human capital, such that it will take a long time to absorb all the poor.

Agricultural growth generates major, technology based increases in real income the expenditure of which is concentrated in small towns and rural areas and on goods and services that use very little capital. Thus, employment expansion and poverty reduction are rapid. That is what the macro data show very clearly.

The bulk of the goods and services that the poor can produce in the short run are basically non-tradable. They cannot be sold in international trade for two reasons. First, they tend to be low quality in significant part because the labor force has little human capital --a short run fact of life in poverty reduction. Second, they are produced in situations with high transaction costs --which is a plus for the poor who are already there, but a minus for export markets. Thus, pro-poor growth must give emphasis to increasing domestic demand for the already very large, labor intensive rural and small town small-scale enterprises.

The place of tradables in pro-poor growth is in increasing real incomes and hence effective demand for initially non-tradable horticultural and livestock products. These are the source of a substantial portion of rapid income growth in agriculture.

The Rural and Market Town Non-Farm Sector

The rural and market town non-farm sector is less studied, with no systematic data on the sources of effective demand for the sector's output. We do know that the sector typically represents over half of all non-farm employment (Liedholm and Meade, 1987). The sector is largely located in rural and small town areas, the effective demand comes largely from local sources, particularly including agriculture, and the sector expands readily in response to increased demand (Liedholm and Meade 1987).

The sector represents a far higher share of employment than of GDP, even more so than agriculture. That is because it uses very little capital per worker, uses relatively unskilled labor, and pays low wages. Agriculture uses substantial land per worker with a substantial return to that land. Tradable industry uses far more capital per worker and tends to use more skilled labor.

The small-scale sector is the path out of poverty for the poor who possess little education and are either underemployed or use a substantial proportion of their time in job search. Experience in the small sector then prepares them for movement up to higher paying jobs in the tradable sectors. Thus, the sector is not only large, but is an important zone of transition as well. Development is a step by step process and we see in country after country that steps in the process cannot be skipped without deleterious impact on the poor.

The growing importance given to microenterprise and microcredit in foreign assistance programs reflects a growing recognition of that importance. What is not yet recognized is that without growth in farm incomes, the demand for this sector's output does not rise and efforts to increase access of some to the sector is at the expense of others already in the sector. Agricultural growth is absolutely essential to this sector playing its important role in lifting the poor out of poverty (Mellor 1995).

Analysis of farmer expenditure patterns shows that in middle income countries, 40 percent of incremental income is spent on locally produced non-farm goods and services (Hazell and Roell 1983, Bell and Hazell 1980,; Haggblade et. Al. 1989) In lower income countries, the percent is much lower because of much higher expenditure on food and lessor differentiation of the economy. The multipliers of agricultural growth on non-agricultural growth in the references just cited are corroborated in macro studies such as Rangarajan (1982) for India.

However, Delgado (1998) shows that in such situations, much of farm production is non-tradable - livestock and fruits and vegetables are non-tradable on quality and transport grounds and even much of the grain sector is non-tradable (low quality, high transport costs, and types of grain). In such economies, the demand of farmers for these products is elastic. Thus, in both very low income undifferentiated economies and in more advanced middle income countries the bulk of employment growth is in sectors that depend on increments to local demand derived from agriculture for expansion of demand, production and hence of employment.

A simple rhetorical question makes the point about this large, employment intensive sector: where else will these goods and services be demanded; and, what else can this massive number of people produce in the short run? Hossain (1988) shows that if agricultural incomes are not rising, credit for small-scale firms simply expands the ones receiving credit at the expense of those already existing firms not receiving the additional credit. The expansion without effective demand reduces prices and returns to labor. The process spreads the misery.

Analysis of Egyptian data is instructive about the size of this sector in a middle income country. In a high growth scenario for Egypt, agriculture and the agriculture driven non-farm sector account for 70 percent of employment growth and only 30 percent of GDP growth (Mellor and Gavian 1999). GDP growth is largely from the tradable sector, employment largely from non-tradables. The tradable sector provides much of the effective demand for expansion of agriculture, particularly the high employment livestock and horticultural sectors. Agriculture and its stimulus to the non-tradable sector provides the bulk of employment growth.

Thus, for pro-poor growth the old concept of balanced growth needs to be resuscitated. Yes, open up the economy, play to comparative advantage, follow-up pro-growth macro policy and let the private sector loose. But, at the same time take the public sector actions needed to move the agricultural sector to provide effective demand for the labor-intensive non-tradable sector.

The Requisites of Pro-Poor Growth

The requisites of pro-poor growth fall in two categories:

First, vigorous pursuit of the macro policies and privatization that will bring as vigorous export led growth as possible.

Second, follow the essentials of rural growth. These fall in three categories:

One, reduce transaction costs and allow specialization and trade in agriculture. That requires all weather roads, telephones, and electricity. It should be noted that these are essentials for direct poverty reduction. Teachers and health workers normally insist on living where there are all weather roads. Even if assigned to isolated schools, they will tend to go less frequently than if they lived there.

Two, improve agricultural technology. Agriculture requires land and the land area is limited. Therefore rapid agricultural growth requires yield-increasing technology and more intensive cropping patterns. In both cases, progress is positive but very slow using only indigenous methods of experimentation. They are very rapid when modern science is brought to bear. In Africa, so little has been achieved in the past few decades that application of scientific innovations of over a century ago., e.g. Mendelian genetics can bring large improvements. Eventually that element of science reaches diminishing returns and more recent breakthroughs will be needed.

Three, technology and specialization require new institutional structures. Marketing of basic staples has gone on for generations and the systems are well in place and effective in the private sector. However, new forms of inputs, fertilizer and pesticides are needed as farmers purchase more of those and produce a lesser proportion themselves; new forms of output, especially perishables are needed for intensification; credit needs become so large that institutions that plug into the global financial systems are needed. These are all most efficiently performed in the private sector or perhaps in farmer owned cooperatives.

However, there is a problem in starting such institutions. The private sector in developing countries tends to be trade oriented, expecting rapid turnover. These new institutions of technology and specialization by definition start with low volume and may not be initially attractive to the private sector. It is for government to monitor these activities to assist them as necessary and then withdraw as the volume builds.

There is an immense literature for all parts of the world on developing smallholder agriculture. See the five thousand references in the American Agricultural Economics Association review of the post war literature, divided by continental area (Martin 1992). With the gradual exit of foreign aid from agriculture, with disastrous consequences for the poor, this literature has lain dormant. We know what to do, it is time it was applied.

Food Security

Poverty is but one of a myriad of conditions that have undermined human potential for centuries. By organizing itself around poverty reduction efforts, the international community can achieve the critical mass necessary to tangibly improve human well-being. At the same time, there is the risk that this recent orientation will divert attention and resources from other important efforts to alleviate human suffering, such as food insecurity.

It is not the intent of this paper to put forth a comprehensive plan for solving all poverty related problems. In great measure, however, poverty is intimately related to these other conditions of human misery. Research shows poverty both causes and results from food insecurity, social inequalities and poor environmental management. Thus, ensuing sections present the relation between each of these issues and poverty reduction, highlighting the synergies, contrasts and sequencing issues needed to develop a balanced approach improving people's lives.

Poverty and Food Security

A multi-faceted approach to alleviating poverty will – in large measure – address most dimensions of food insecurity. The definitions and goals associated with poverty reduction and improved food security differ in their particulars, but the strategies and interventions promoted for lessening poverty and food insecurity show great overlap, especially at the level of individuals and households. Reducing poverty will go a long way to improving food security and vice versa. There are nevertheless two reasons to identify differences between these two concepts:

First, to the extent that poverty reduction and food security are so similar, they will compete for the same resources. The concerted, international effort to improve food security in recent years should be incorporated into poverty reduction plans, rather than sidelined or abandoned. Overall, these efforts have been more successful at addressing food crises than the long-term causes of food insecurity. At the same time, they represent a substantial investment of financial and human resources. All attempts should be made to build analytic and programmatic bridges between poverty reduction and food security to avoid squandering the considerable effectiveness, credibility and momentum of decades of food security efforts.

Secondly, although similar, poverty reduction and food security are not the same. Just as measures to improve food security have not eradicated poverty, measures to reduce poverty will not end food insecurity. A continued focus on particular dimensions of food insecurity will remain necessary.

In the rest of this section, we will review the concepts, indicators, and actions associated with poverty reduction and food security.

Concepts

After much evolution and debate, there is consensus on the definition of food security internationally. Borrowing wording from USAID's Famine Early Warning Systems (FEWS) project[2]:

Food security is a condition in which a population has physical, social, and economic access to sufficient safe and nutritious food over a given period to meet dietary needs and preferences for an active life. A food-secure population can meet its consumption needs in the given consumption period using income-derived strategies that do not compromise future food security.

The FEWS definition of food security is based on three pillars:

Food access is a measure of the population's ability to acquire available food for the given consumption period through a combination of its own production and stocks, market transactions, or transfers. Food availability is a measure of the food that is, and will be, physically available in the relevant vicinity of a population during the given period through a combination of domestic production, stocks, or net imports (imports minus exports). Food utilization is a measure of whether a population will be able to derive sufficient nutrition from available and accessible food to meet its dietary needs.

Possible causes of food insecurity are insufficient food availability, insufficient food access, and inadequate food utilization. Current (or transitory) food insecurity occurs when a population suffers a

[2] This definition forms the basis of the FEWS Vulnerability Analysis, found at http://fews.org/va/vaterms.htm#concepts : Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary and food preferences for an active and healthy life. http://www.fivims.net/. The FIVIMS' definition of food utilization is "adequate diet, care and hygiene practices, water and sanitation." See http://www.fivims.net/.

temporary decline in consumption. Current food insecurity can result from instability in food production, food prices, household incomes, or health conditions. Chronic (or long-term) food insecurity occurs when a population has continuously inadequate consumption. Chronic food insecurity arises from conditions of poor food production, limited incomes, and poor health.

Usually accompanying a definition of food security is the concept of vulnerability to food insecurity. In this context, vulnerability is usually taken to mean the risks that individuals face and their resilience to (or ability to cope with) those risks.

The definition of poverty is multi-dimensional and has been evolving over time, reflecting a growing appreciation of its complex causes. According to the World Bank's World Development Report (WDR) 2000/1: Attacking Poverty, the definition of poverty, which the Bank traditionally based on low income and consumption, now has been expanded to include "low achievement in education, health, nutrition , and other areas of human development" (World Bank 2001). The Development Assistance Committee (DAC) of the Organization for Economic Co-operation and Development (OECD) defines poverty as "the condition of people who are unable to meet minimum standards of human well-being as these are perceived in different societies around the world (DAC, 2000). Thus, the definition, traditionally cast in terms of a failure to meet basic physiological and material needs due to low levels of income or consumption, has broadened to include other types of deprivation that prevent the poor from living a tolerable life. The World Bank adds low levels of health, nutrition and education as well as vulnerability and powerlessness. The DAC adopts a polygonal poverty concept with interactions between: economic capability (which includes income and consumption), human capability (effective participation in economic, political and social activities), political capability (empowerment), social capability (a sense of belonging, including dignity and social status) and security/vulnerability (ability to respond to risks and shocks).

Defined this broadly, poverty is a far more expansive concept, encompassing not only insufficient food and nutrition, but also many other basic physical (clothing, shelter, water, health and sanitation) and social needs (equity, inclusion, risk management). Both definitions recognize the temporal and dynamic nature of the problem and the importance of individual preferences. While narrower, the concept of food security is more specific about the particular issue it seeks to address, and thus leads to a clearer set of strategies, measurement indicators and interventions. Furthermore, as discussed below, there is a trade-off between defining the concept of poverty this widely, and operationalizing the concept in a practical, measurable, resolvable manner.

Although poverty reduction is a larger concept than food security, debate persists about the relationship between poverty and food insecurity. The World Food Programme argues that hunger and poverty cause each other. Because hunger erodes the main asset of the poor - their labor - alleviating hunger is an important first investment in reducing poverty (WFP, undated). The European Union argues that the causes of poverty and food security are in great measure the same, because the most important cause of food insecurity is limited access to food, which is primarily "an outcome of poverty", especially at the household level (EU, 2000).

Approaches

Ultimately, there is no need to distinguish chicken from egg if both poverty and food security are approached in a consistent manner.

The approaches to combat poverty are broader and less focused than the usual approaches to combating food insecurity stated in Part I. In recent years there has been a growing recognition – inspired in great measure by the work of Nobel Prize winning Amartya Sen – that the major cause of food insecurity is a lack of food access, or food entitlement. Hunger and famine persist in the face of global, national and even local food surpluses, adequate food access depends on having enough resources (natural, financial or social) to produce or procure a healthy diet at any given time. Over the long run, adequate food access requires that these resources be renewable (such as a steady stream of income or sustainable livelihood system) to avoid asset depletion, environmental degradation or social dependency.

Thus, most strategies to improve food access include measures consistent with the broad-based, equitable economic growth strategy for poverty reduction. Usually included are efforts to generate jobs, increase household purchasing power, improve food price stability and market infrastructure, and protect assets.

Despite the importance of food access, food availability and food utilization remain important pillars of food security. In theory, the ability to trade food and other commodities means households, regions and nations need not cover their entire food requirement (self-sufficiency). In reality – and especially in the less developed highly food insecure countries – agriculture is the major source of both food access and food production. In these primarily rural economies, crops, livestock, and fishing provide both food, incomes and export earnings. Thus, most food security strategies include measures to improve food availability through increasing the level and sustainability of agricultural production. Efforts include a combination of macro-economic reforms, sectoral policies and institutional reforms that promote agricultural research and extension, increase the availability of high-yielding agricultural inputs, expand trade and marketing opportunities and protection the resource base. As discussed in Part III, all of these are crucial to decreasing poverty in rural societies but are often overlooked in poverty reduction efforts.

Likewise, the approaches to ensuring proper food utilization are consistent with – but not necessarily high priorities under – strategies to reduce poverty. People can be undernourished even if sufficient food is available and accessible if food is unsafe, prepared badly, ill-chosen, or poorly metabolized due to compromised health conditions. Thus, strategies to improve food utilization include those that improve food habits (such as nutrition education), improve capacity to prepare safe food (such as clean water, food technologies) and improve capacity to absorb nutrients (such as sanitation, health, supplemental and therapeutic feeding programs and clinics). Any of these might be included under safety net strategies for decreasing poverty, but may be underemphasized in a poverty reduction strategy.

In addition to enhancing food availability, access and utilization, food security strategies often contain highly developed action plans for monitoring, early warning and rapid response. The history of food security monitoring dates back to the Famine codes of the 19th century in India. In recent years, the food security community has worked at all levels to identify agreed-upon indicators of the different elements of food insecurity in real time. Information systems have been established to gather, transmit and employ that information in diagnosing food problems, needs and appropriate interventions. As starvation attracts more urgent attention than grinding poverty, much effort has been devoted to strategies for crisis management and emergency interventions. USAID alone has developed several bureaus to deal with differing aspects of monitoring and responding to acute food insecurity, such as Food For Peace, the Office of Foreign Disaster Assistance, the Bureau of Humanitarian Response and FEWS. In addition, USAID works through a wide range of non-governmental organizations (such as CARE, World Vision, etc) and international bodies (FAO/GIEWS, World Food Programme, UN High Committee for Refugees) to respond to acute food insecurity. Because the processes that lead to hunger and famine include the exhaustion of financial and social assets as well as physical health, these monitoring and response strategies can and must be absorbed into poverty reduction strategies.

Stepping back from the particulars of food security strategies and implementation plans, it is important to note the increasingly unified international approach to combating food insecurity. Confronted with hunger and even famines, many countries have strengthened their abilities to detect and respond to food insecurity. The dynamics of hunger and food insecurity have been analyzed and debated. Many countries have formalized their understandings and approaches in food security strategies and implementation plans. An elaborate international architecture for fighting hunger and famines has been developed in the last few decades, including the Food and Agricultural Organization of the United Nations, the World Food Program, the Food Aid Code of Conduct (date?), and the Food Aid Convention (1999)[3]. In 1996, 186 signatories to the World Food Summit pledged to decrease the number of hungry people in half – to no more than 400 million – by the year 2015. As part of that process, the UN Committee for Food Security, under the FAO umbrella, has been working with countries to develop global indicators of hunger and to establish or adapt local systems for identifying and mapping food insecurity and vulnerability[4]. Working within the international architecture as well as bilaterally, donor nations have actively supported national efforts to address acute and chronic food insecurity by providing technical support and, when all else fails, humanitarian relief.

Indicators

Although the definition and approaches to poverty reduction are very broad, the indicators usually employed to measure levels of poverty are not. As pointed out by the World Bank (2000), there is a

[3] The Food Aid Convention "was agreed in 1967, as part of the International Grains Agreement. It has the primary objective of ensuring a minimum availability of food aid to meet emergency requirements and developmental activities in developing countries. It is intended to act as a safety-net, protecting recipient countries against downward fluctuations in annual food aid shipments… There are 23 signatories to the 1999 FAC, including the EU (represented by the European Commission) and the 15 EU member states, Argentina, Australia, Canada, Japan, Norway, Switzerland and the USA". Overseas Development Institute, 2000.

[4] These efforts- some pre-existing, some new- fall under the rubric of FIVIMS, or Food Insecurity and Vulnerability Information Mapping Systems. FIVIMS are networks of systems that assemble, analyze and disseminate information about the problem of food insecurity and vulnerability

direct trade-off between the complexity of the concept and the ability to measure it. Economists have been working with measures of income and consumption for centuries. There is considerably less consensus on how to measure empowerment, social inclusion, feelings of vulnerability and security. Debate also persists on the relative merits of simple versus composite indicators of poverty. While similar issues persist in the domain of food security, great strides have been made to find consensus on what is ultimately a narrower topic.

In the WDR 2000/1, the World Bank describes different methods for measuring the income and non-income components of poverty (World Bank 2001). Ultimately, however, the most common measure of poverty used by the World Bank and others addresses only income poverty using highly generalized data usually at the national level. To compare poverty across countries, the Bank determines consumption levels (either from consumption data derived from recent household surveys or recent income data adjusted by historic consumption patterns). Consumption levels are then compared with the poverty line (both adjusted for purchasing power parity) to determine the distribution of the population around the poverty line.

As with poverty, the multi-dimensional nature of food security does not lend itself to easy measure.

Food Availability is typically measured using a national (or subnational if possible) food balance sheet. This calculation compares the population's total food need against the sum of food production, stocks and commercial imports and food aid minus transformation losses carry-over stocks and exports. (There are many variations of this measure, such as adjusting for non-human uses like seed and animal feed, treatment of non-cereal crops). Food Access is measured in numerous ways, in which some attempt to estimate household incomes in real time using a myriad of proxy measures, others employ even more general indicators of household livelihoods based on key informant interviews. To date, there has been little formal work done on measuring food utilization comprehensively.

FIVIMS and others have worked to develop global measures to count and track the number of food insecurity over time and across countries. These simplified measures usually capture the outcomes of food insecure, such as nutritional intake and nutritional status (underweight, stunting, wasting, body-mass-index, low birth weight, and vitamin deficiencies).

Famine early warning indicators which track factors that pose a risk to food insecurity (hopefully before the situation degenerates) include measures of climate, pests, agriculture, health, demography, population movements, markets, prices, incomes, consumption, resource depletion, use of coping strategies, etc.

Several observations emerge from this comparison of poverty and food security indicators. First, the difference in the measurement of poverty versus food insecurity implies that one could improve while the other did not. Poverty is usually measured by income measures. Food security ultimately comes down to nutritional and health measures. There are several reasons why those can (and do) differ. One can have wealth but not nutritional health, due to lack of education (or care, in the case of a child), lack of safe water, lack of safe food, not all of which are necessarily easily purchased.

Secondly, measures of poverty are often made at greater levels of generality, over larger populations, than those for food insecurity. Although there is no theoretical reason preventing the two concepts from being measured at the same level, poverty measures are usually aggregated nationally, where food security measures are often at the individual or household level. This otherwise trivial problem becomes important when programs are designed to have their impacts at certain (and different) levels.

Furthermore, measures of poverty at best measure potential food security. They fail to look at actual nutritional outcomes that depend on food and income distribution, food composition (not only calories but proteins, and micro nutrients) and individual biophysical factors.

Action

In sum, there is great overlap between the definitions of and approaches to poverty reduction and food security when poverty is defined broadly to include non-income dimensions. For the most part, alleviating poverty will greatly alleviate hunger and food insecurity. Pursuing broad-based economic growth, fair access to and distribution of productive assets, stability, improved education, sustainable natural resource management, enhanced social inclusion while putting in place effective safety nets and monitoring systems will help both goals.

The actual plans used to implement poverty and food security strategies are likely, however, to differ in emphasis. This tendency is heightened by the great divergence in the measures used to track the two concepts and design interventions.

Particular elements of food security that may require separate attention from poverty include
Distinguishing between aggregate and disaggregated diagnosis and treatment of the problems. This holds between regions, ethnic groups, livelihood systems, genders and age groups. For example, even if programs to reduce poverty also improve food availability and access, rural women and children are likely to face serious malnutrition problems. A major effort at nutrition education and targeted interventions to rural women and children is needed. These aspects of human development could be lost in a broad-ranging poverty reduction strategy.

Distinguishing between the present and the future. Many poverty reduction strategies will not improve the ability of individuals to have access to safe, nutritious food, especially in the short run. Some interventions, such as macro-economic reforms, government cut-backs, and even efforts to promote cash cropping may decrease availability and distribution of food, at least in the short run.
Distinguishing between nutritional inputs and nutritional outcomes (e.g. role of proteins and micronutrients, clean water, safe food, etc in actual health).

Maintenance of early warning and response systems
Support for international coordination and consensus (in keeping with the World Food Summit goals)

One way to bring together the goals of reduced poverty and food insecurity is for the international community to address itself first to alleviating poverty in the world's most food insecure countries.

Poverty reduction efforts could focus, as a first priority, on that sub-set of poor countries (and regions within countries) that demonstrate the highest levels of chronic food insecurity. The second step would be to select actual interventions that deal with poverty and food security simultaneously. Donor interventions will lose credibility if poverty measures such as per capita GDP or household incomes improve, while food security indicators stagnate or decline.

PART III. OTHER POVERTY RELATIONS

Pro-Poor Growth and the Initial Distribution of Income

Preceding sections alluded to the problem of ensuring that the poor benefit from agricultural growth. The data (Timmer 1997) are clear that when incomes are highly skewed, it is virtually impossible to benefit the poor. The remedy is of course obvious. There are no scale economies in agricultural production. (there are of course in marketing). Therefore, redistribute the land to the poor. Two problems, stand in the way

First, the political power lies with the elite. Radical land reforms rarely occur without powerful outside forces --as in the cases of Japan and Taiwan.

Second, the institutional and physical infrastructure (for irrigation for example) are complementary to the large scale holdings. Redistributing the land leaves the immense problem of realigning institutions and physical infrastructure.

Even direct poverty efforts are highly inefficient in the context of highly unequal asset and income distribution. Rich landowners may oppose education of the labor force. Infrastructure and rural living conditions are not suitable for the middle class that provides education and health services. Organizing the poor is dangerous.

What to do? Perhaps this is the one situation in which one simply has to wait patiently while urbanization increases and eventually the problem is solved by absorbing the poor into the urban labor force. But that is a long-term process. In Chile, well along in the process it may be feasible. But for Central America perhaps not.

Of course where, as in Central America, where there are blocks of indigenous people, development of their small holdings may be possible with modern technology and specialization in high-value commodities. Specialization is particularly advantageous in hill areas that may be suitable to tropical perennial exports and to horticulture. If that process raises farm incomes substantially in those areas of indigenous poor, their expenditure patterns can encourage growth of non-farm enterprises and provide employment for the poorest elements in society.

Pro-Poor Growth and Gender

There are two issues with respect to pro-poor growth and gender. First, are women disproportionately represented among the poor? Second, can poor women participate in the processes of pro-poor growth?

Whether or not female headed households are poorer than average varies from country to country and the nature of the data source. Studies have shown that in some low–income countries like Zaire and Nepal, de facto female-headed households created by migration of men to urban areas for work, were well-off in terms of income due to high remittances (IFPRI 1995).

According to a cross country study by Blackden and Bhanu, poverty incidence was statistically higher among female-headed households compared with male headed households in only two of six Sub-Saharan African countries (Blackden and Bhanu 1998). In female-headed households, consumption is oriented towards meeting the basic needs. A comparative study in seven Sub-Saharan African countries by Blackden and Bhanu shows that child school enrollment and completion rates are higher in female headed households than those in male headed households.

UNDP data show that in many countries in Africa, female-headed households have lower incomes than male headed households. But that is not true for all countries. Studies in Gambia, Nigeria, Senegal, and Uganda, show higher incomes for female-headed households (UNDP 1998a). In contrast, in Malawi female-headed households comprise 30 percent of the population and 42 percent of those in poverty (UNDP 1998a). Female headed households have less land per household, receive lower wages (substantially due to lower educational attainment), are less likely to have title to land, and have smaller labor forces than male headed households (UNDP 1998a).

On the other hand, de jure female-headed households, which are created by death of spouse, divorce or other disruptive life changes, are much poorer than male headed households. In Sri Lanka, female headed households are worse off than husband-wife headed households due to the lack of male labor. In Bangladesh, women are left in poverty by their husbands for second marriages in order to obtain another dowry (IFPRI 1995). The UNDP-Africa publication shows that both types of female-headed households whether de jure or de facto, have lower average incomes in comparison to male-headed households (UNDP 1998a).

In Pakistan, the UNDP defined Human Poverty Index (HPI) for men was 60.6 and that for women was 70.1 in 1970, while in 1995, the HPI for males dropped down to 41.0 and the HPI for females only decreased to 55.8 (Tahir 1998). According to a UNDP report, about 45% of the female-headed households live below the poverty line, compared to 39% of male-headed households (UNDP 2000b).

Although women may or may not be disproportionately poor, women who head poor households do have greater problems in lifting themselves out of poverty than male headed households. In pro-poor growth, and in other aspects of poverty reduction as well, women in poverty tend to get left out of the processes of modernization. That is despite the fact that pro-poor growth has several features favorable to women's participation. That is only to say pro-poor growth provides an opportunity for women but special measures are needed to ensure their participation. That should be an integral part of the pro-poor growth strategy. Two features of pro-poor growth are highly favorable to women's participation.

First, high agricultural growth rates include very rapid (6-8 percent growth rates) growth of the livestock sector. Generally women have a primary responsibility for livestock, including the marketing and financial aspects of livestock production. Horticulture also bulks large in high growth agriculture and although not as strongly as in livestock women play an important role in production and could be brought more vigorously into the marketing function.

Second, the small-scale, rural enterprises stimulated by agricultural growth normally have substantial women participation and lend themselves to increased women participation.

The most important barrier to women's participation in these two activities is the tendency in modernization to exclude women from the new institutions. Women need credit, access to improved technology and access to marketing institutions. Special effort must be made to overcome old traditions of exclusion of women from activities organized outside of the household. That must be an integral pat of pro-poor growth.

What is needed is diagnosis of what opportunities expand rapidly in pro-poor growth, both on farm and off farm and specific programs developed to ensure women's participation. Starting with the major growth opportunities will greatly increase the impact of programs designed to reach poor women. The converse must of course also be kept in mind. Special programs to reach women with credit and access to other institutions will fail in their aggregate impact, if the opportunities are not growing from increased effective demeaned. That requires agricultural income growth.

Pro-Poor Growth and the Environment

Pro-poor growth with its strong agricultural component has a strong positive effect on the environment. It depends on intensification of agriculture. It does so via a switch to high value commodities and through increased yields from improved technology. That intensification allows much larger incomes and more people supported from a given quantity of land. As a result, the pressures to move arable agriculture onto easily eroded hillsides and to reduce bio-diversity in natural areas is lessened. However, expenditure may be needed to take advantage of this opportunity by purchasing lands for conservation.

Agricultural intensification with its corollary of increased specialization allows agricultural production patterns to tune precisely to environmental differences. Under subsistence agriculture, emphasis must be on all food crops, even those not suited to annual food crops. Specialization and trade allow hillsides and fragile tropical soils to be moved into tree crops for export to other areas in trade for food crops better produced on other soils and topographic conditions.

Increased intensity does require increased use of chemical nutrients. This does no damage to water tables when nutrients are highly deficient as is true in most low-income countries. However, as applications become heavier and heavier the possibility of environmental damage rises. In practice, low-income countries have done a poor job of introducing the complex management systems required to prevent such damage. The lesson to learn is to begin research and education in those systems early in the process of technological change.

Similarly, low-income countries have tended toward heavy applications of chemical pesticides when integrated pest management is less costly and more environmentally sound. Again, the lesson to learn is to begin early in the process developing, fine-tuning, and teaching the complex management systems that are more profitable and more environmentally friendly. Both these actions should be an integral part of efforts towards the pro-poor growth of accelerated agricultural intensification.

Pro-Poor Growth and AIDS

Particularly in Africa, the AIDS epidemic has profound implications to poverty. Most important, it has a highly unfavorable effect on dependency ratios. An important source of growth in low-income societies comes from the dependency reduction dividend that comes from rapidly declining birth rates. If pro-poor growth rapidly expands jobs, then the growth in labor force, with lower dependency ratios following the demographic transition, gives a major boost to the growth rate.

The AIDS epidemic in Africa is creating massive numbers of orphans with a clear sign of the rapid increase in dependency ratios. In addition, adults of normal working age become dependents for a period of time. With such increase in the claims on the remaining members of the work force, it is difficult to save and investment with a deleterious effect on growth.

In addition to the dependency effect, there is a loss of trained personnel to staff the rapid growth in critical institutions structures to support accelerated agricultural growth.

In numerous African countries, it is predicted that the AIDS epidemic will encompass half the adult population within five years. That rapid and inexorable expansion calls for immediate action to halt the rise. Given the deleterious effect on pro-poor growth as well as the human dimension of the problem, it is essential that substantial organizational and financial resources be allocated to holding AIDS in check. Those measures include massive organizational efforts for education for prevention. Those efforts, like so much of pro-poor growth and anti-poverty programs, must be developed at the family and village level.

Direct Action to Assist the Poor

The core of efforts to meet the poverty targets is to increase incomes through pro-poor growth. The preceding section on food security has dealt with specific features that need to be addressed to ensure food security within the context of pro-poor growth. Contemporary analysis of poverty emphasizes other aspects that require attention. To some extent these programs are supplements to income growth to ensure the participation of the poor, and to some extent they are supplements that are required to meet important needs of the poor that are unrelated to income, and to some extent they fall in both categories.

Empowerment

Lack of empowerment, or victimization, is a common description of their state by the poor. Empowerment of the poor may be necessary to participation of the poor in even pro-poor growth, but increased incomes to the poor may also help in increasing their protection against victimization. Programs to empower the poor generally emphasize reaching the poor and organizing them. That requires grass roots organization. The institutional mechanisms for reaching the poor may be very different to those for organizing actions required for agricultural growth. The latter may benefit from use of existing local governmental bodies. Such bodies tend to be run by the local power structure and may be uninterested or even antagonistic towards the poor. Often action to organize the poor requires direct intervention from central governments that may wish to do so for broader political purposes. In that context, non-governmental organizations may be helpful.

Conflict Resolution

Civil strife has strong negative effects on the poor who at the very least have little capacity to withstand any losses to livelihood and to assets that may accompany such strife. Thus, efforts to avert civil strife are seen as pro-poor. It must be noted however, that civil strife often has its roots in economic forces. On the one hand it has occurred, as in Rwanda, when deteriorating agriculture lowers farm incomes and then operates with a powerful multiplier to reduce non-farm employment more than proportionately. The resultant idleness of young men is a favorable environment to be exploited for political purposes. Strife may arise to control valuable assets and again the poor get caught in the crossfire. Efforts to reduce civil strife must be carried out with a full awareness of the interactions with incomes and sources of income.

Ensuring Participation of the Poor in Economic Activities

Agricultural intensification requires credit and access to institutions for purchased inputs and marketing. The smallest farmers may lack access to these institutions. Programs are needed to ensure their access. Such programs may need to be commenced by public or quasi-public bodies. In general, providing subsidies is counter productive because they provide a powerful incentive for the more well off and politically powerful to commandeer those resources, thereby depriving the poor.

The primary barrier to growth of rural non-farm employment is the effective demand that is most effectively provided by agricultural growth. Nevertheless, the poorest elements of the community may benefit from growth of such enterprises, if they are provided access to credit and management training.

Access to Health and Education Services

The poor suffer greatly from lack of access to health, family planning and education. To some extent the problem is due to lack of consumer demand which is logical of acute poverty. The problem also appears as the institutionalized exclusion of the poor as a class. Central government intervention in the form of reduced prices and improved access targeted to the poor can help. Subsidies must be carefully monitored to ensure they are not hijacked by the more well to do.

Donor Coordination

The current environment of foreign aid is one of large numbers of donors, pursuing objectives driven by the national politics of their home countries to acquire sufficient support for foreign aid to continue programs. Weak governments tend to succumb to diagnosing the needs of each donor while designing their development strategies in an effort to maximize foreign aid. The resultant patchwork of programs is unlikely to establish the priorities essential to pro-poor growth. This represents a dilemma without an obvious solution. Once this solution is found, it proves all too often to be temporary. Meeting the donors' current poverty targets requires that for each country there be a plan, for example the PRSP, subscribed to by the government and the donors. That plan must set a few simple priorities that can be achieved. Once those priorities are met or institutionalized, then additions can be made. It is agreeing to abide by those priorities that are difficult for the collectivity of donors.

Measuring Poverty Decline

Most countries do not have annual collection of data that allows for tracking poverty reduction. Even if such data are available, they are of little use for monitoring progress on a year to year basis. That is because in low income countries, agriculture is the primary force in changing poverty levels, where agricultural production fluctuates substantially with weather. Thus, over the course of three or four years, poverty may decline sharply, by say one quarter, using the Indian examples from the l950's and 1960', solely because of sequences of good weather years. Thus, there is a dilemma because the poverty targets are quite short run, now less than 15 years. There is interest in a yearly accounting and yet that is impossible. The best that can be done in the short run is through a highly judgmental adjustment of agricultural production and poverty numbers for weather. Failing acceptance of such adjustment, proxies of the inputs to agricultural production must be used as a proxy for agricultural growth and that in turn converted by calculation into poverty numbers.

Over the longer run, poverty data must be collected on a regular basis. That requires large-scale sample survey systems to be developed for each low-income country. There is even a question as to whether for poor countries with scarce trained personnel resources this is a high priority use for those resources. Thus the dilemma is add to.

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